



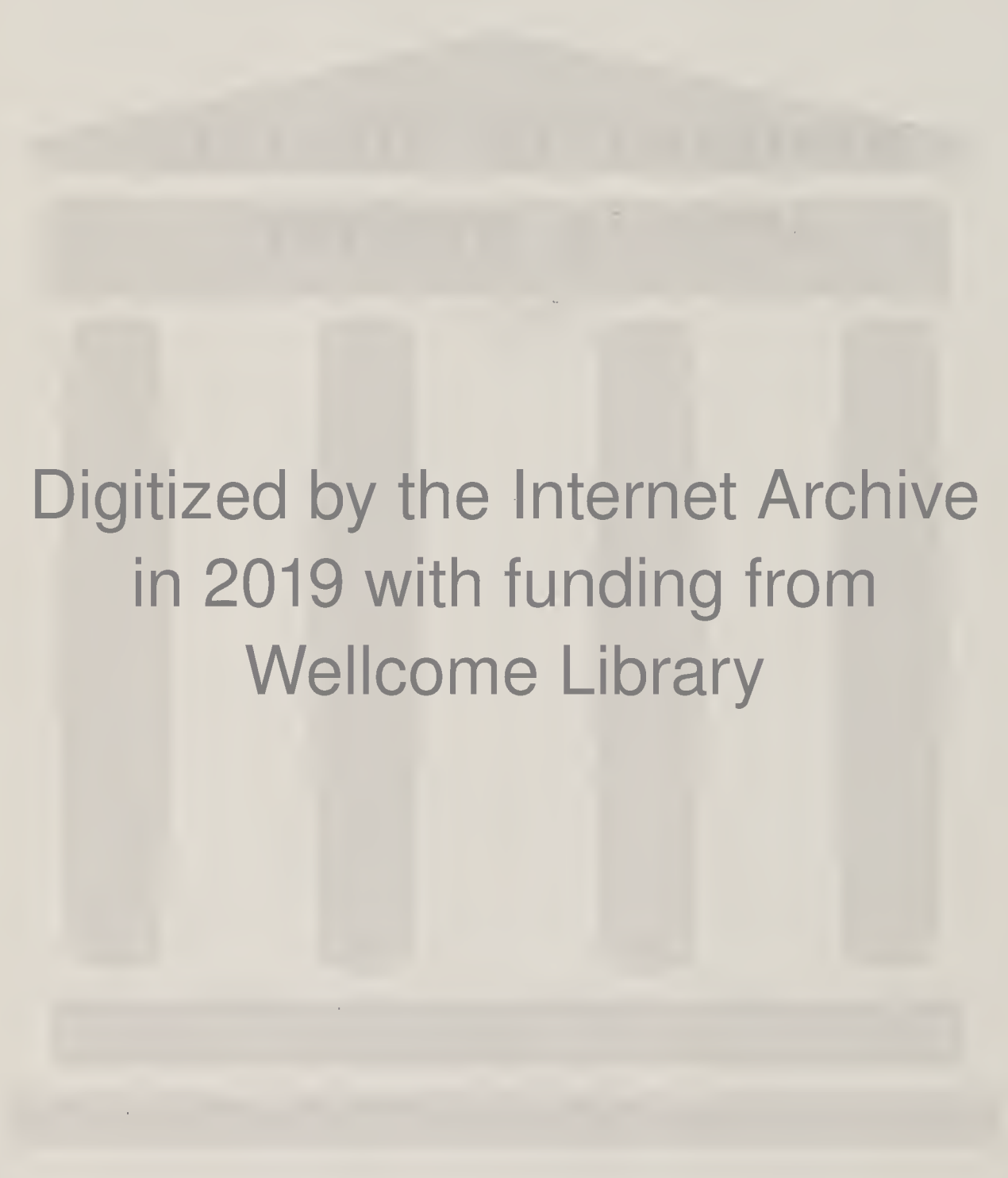
COLONY AND PROTECTORATE OF KENYA

MINISTRY OF HEALTH
ANNUAL REPORT
1960



Five Shillings - 1961

MINISTRY OF HEALTH
ANNUAL REPORT
1960



Digitized by the Internet Archive
in 2019 with funding from
Wellcome Library

<https://archive.org/details/b31493506>

CONTENTS

PAGE

GENERAL—

<i>Introduction</i>	1
<i>Legislation:</i>	
Food, Drugs and Chemical Substances Bill	2
Children and Young Persons Bill	2
Subsidiary Legislation	2
<i>Statutory Boards and Councils:</i>	
Medical Practitioners and Dentists Board	2
Pharmacy and Poisons Board	3
Post Graduate Training Board	3
Nurses and Midwives Council of Kenya	4
<i>Voluntary and Charitable Institutions:</i>	
Central Province Field Organization	5
The Child Welfare Society of Kenya	5
The Edelvale Home for Girls	5
The Kenya Society for Deaf and Dumb Children	5
The Kenya African Moral Welfare Association	5
<i>Survey of the Needs of Children</i>	6

PUBLIC HEALTH—

<i>Staff—Recruitment and Training</i>	6
<i>International Health</i>	6
<i>Industrial Health Services</i>	7
<i>Environmental Sanitation:</i>	
Water	8
Latrines	8
Fireplaces	8
Sewerages and Sewage disposal	8
Housing	8
<i>Forest Settlement</i>	9
<i>Nutrition</i>	9
<i>Services to Handicapped Children:</i>	
The Blind Child	10
The Deaf Child	10
The Crippled Child	10
<i>School Health</i>	12
<i>Health Education</i>	12
<i>Rural Health Services</i>	12
<i>Communicable Diseases:</i>	
Smallpox	13
Poliomyelitis	14
Enteric Diseases	17
Tuberculosis	18
Cerebrospinal Meningitis	19
Leprosy	19
Tetanus	20
Bilharzia	21
Malaria	23
Kala-azar	24
Sleeping Sickness	25
Filariasis	26
Venereal diseases	26

CONTENTS—(Contd.)

	PAGE
PERSONAL HEALTH SERVICES—	
<i>Out-patient services</i>	26
<i>In-patient services</i>	27
<i>Laboratory services</i>	31
<i>Radiological services</i>	32
ADMINISTRATION—	
<i>Development</i>	32
<i>Finance</i>	33
<i>Recruitment</i>	35
<i>Training</i>	35
<i>Visitors</i>	36
<i>Publications</i>	37
STATISTICS	40

GENERAL

Introduction

Anyone reading this report cannot fail to be impressed by the very wide diversity of the subjects engaged upon and the problems investigated by officers of the Ministry of Health and Welfare.

It has for many years now been our policy to go forward on a broad front and not to tie up too much of the limited funds available in the development of a few specific projects. It would be easy to concentrate expenditure on the control or even eradication of some of the more prevalent tropical diseases; but a study of the reasons why patients attend for treatment (*see* the Tables at the end of this report), reveals that more patients suffer from diseases which are not specifically tropical and which will only cease to be important as the public generally learns to look after its health and to appreciate a more satisfactory environment in the home. The environment in this context includes better housing, adequate sanitation and safe water supplies. In the body of the report reference is made to the views of outside observers who seem to be of the opinion that the development of the multi-purpose health centre with a staff responsible for handling all health problems within their area is probably the most appropriate development in underdeveloped countries where funds are limited.

The very considerable degree by which the Government services still fall short of meeting the needs of the people can best be appreciated if it is understood that the cost of these services per head of the population amounts to no more than six shillings and seventy-five cents per annum, of which sum one shilling and fifty-four cents is obtained as direct revenue in the form of a variety of fees for service. If effort can be considered to be concentrated in any way then, apart from the hospital services which speak for themselves, it can be considered to be directed towards the training of auxiliary staff, the development of the health centre service, the improvement of maternal and child health, the control of pulmonary tuberculosis and the improvement of the environment with particular emphasis on better housing, adequate sanitation and safe water supplies.

Water creates a problem on its own—whilst it is essential to life its presence has a direct or indirect bearing on the incidence of most of the important tropical diseases; malaria, onchocerciasis, bilharzia and gambiense sleeping sickness. Even the dry country disease Kala-azar seems to have its greatest prevalence in the neighbourhood of water; for example the only major epidemic, that occurring in Kitui District in 1952/54, was in the locations bordering the Tana River. The two diseases most likely to be increased by the activities of man are malaria and bilharzia, they constitute an ever present hazard in the development of irrigation schemes unless, as at Miwani (referred to again in the report), the water used for irrigation purposes is conducted to the point of discharge in pipes rather than in open channels. It is not easy to compare the economic gains in an irrigation system resulting from increased agricultural production with the losses resulting from a deterioration in the health of the workers but it is interesting to note that at least one commercial concern has found it not uneconomic to distribute its water in the safest if initially the most expensive way.

The Government's expenditure on welfare services is very limited, most effort being related to the giving of assistance and encouragement to voluntary societies. Two very important projects were brought to a conclusion during 1960; one a Survey of the Needs of Children carried out by the Child Welfare Society and the other the preparation of a Children and Young Persons Bill which brings together into one Ordinance all existing legislation and makes possible the full development of a children's service. These two projects were complementary and each in its way will determine the pattern of future development.

The Lancaster House Conference with its proposed changes to the Constitution resulted in a certain amount of unsettlement of the staff but even so the number leaving as a consequence was not so great as to affect seriously the workings of the Medical Department, whilst recruitment from overseas, notably of medical officers, continued until the end of the year. This year of uncertainty was associated with an increase in the work done by the Medical Department in terms of patients treated whilst the more general public health activities continued unabated.

Legislation

THE FOOD, DRUGS AND CHEMICAL SUBSTANCES BILL

The Ministry has initiated the Food, Drugs and Chemical Substances Bill which, when enacted will be an enabling Ordinance, designed to emphasize and support the role of local authorities in the control of the standard of articles offered for sale to the public, not only from the public health point of view, but also with the intention of avoiding deception. The necessity to draft this new Bill arose out of the fact that the Food and Drugs (Adulteration) Ordinance is not entirely adequate to meet present day needs.

Much help and advice was given to the Ministry by the Food Standards Committee, upon which the relevant Government and commercial interests are represented. Recognizing the value of such an advisory body, which is at present quasi-official, one of the main recommendations in the new Bill is the setting up of a statutory standards committee to advise the Minister more particularly regarding regulations to be made under the new ordinance by the Government and by local authorities.

THE CHILDREN AND YOUNG PERSONS BILL

A Working Party was appointed to consider and draft a new Bill to combine in one Ordinance the provisions of the Prevention of Cruelty to and Neglect of Children Ordinance and the Juveniles Ordinance. Further reference to this will be made in the section dealing with child welfare.

SUBSIDIARY LEGISLATION

Draft rules for the control of the manufacture and sale of condensed milk have been produced with the co-operation and advice of the Food Standards Committee.

The Public Health (Milk and Dairies) Rules and the Public Health (Dried Milk) Rules were amended by Legal Notice Nos. 93 and 94 respectively. This legislation was made with the advice of the Food Standards Committee upon which the Kenya Dairy Board is represented.

Statutory Boards and Councils

MEDICAL PRACTITIONERS' AND DENTISTS' BOARD

During the year the Board continued to meet quarterly.

Dr. A. J. Walker, Director of Medical Services, Chairman, left on retirement and was replaced by Dr. E. P. Rigby, Acting Director of Medical Services.

Dr. J. A. Carman resigned after serving the Board for many years and Dr. E. M. Horowitz was nominated by the British Medical Association to fill the vacancy.

During the year the Board dealt with nine disciplinary cases. There were no erasures.

A complete list of registered and licensed medical practitioners and registered dentists was published in the Kenya Gazette, Special Issue, Vol. LXII No. 11 of 19th February, 1960.

During the year 57 medical practitioners were registered and five licensed. One dentist was registered.

PHARMACY AND POISONS BOARD

Four meetings of the Board were held. The standing Pharmacists Committee which deals with much of the detailed work of the Board, met on numerous occasions. Amongst matters of importance dealt with by the Board during the year were the furtherance of amendments to the Pharmacy and Poisons Ordinance, 1956, which had become necessary in light of administrative difficulties experienced in the working of the Ordinance since it came into force. The distribution and sale of trypanocidal drugs used in veterinary practice was more closely controlled. The latter had become a growing problem in that the normal channels of distribution had shown some signs of being ignored and the drugs were falling into the hands of unauthorized persons and drug resistance was becoming apparent.

The drugs inspectorate continued to be active and a number of convictions for breaches of the Ordinance were obtained. The breaches were mostly of a minor nature. Inspections were carried out regularly in all accessible areas in the Colony and as a result of such regular inspection there was seen a noticeable improvement in the general compliance with the law.

POST GRADUATE TRAINING BOARD

Meetings of the Board were held quarterly throughout the year.

Following the two successes mentioned in last year's report another former student of the Post Graduate Training Board obtained during 1960, the diploma of Fellow of the Royal College of Surgeons of Edinburgh.

Two surgical registrars completed their courses and, successfully passing the Board's examination, were issued with the appropriate certificate. Unfortunately, owing to a resignation there was no medical candidate for examination.

Two clinical assistants were appointed during the year.

The progress of the present five students, members of the Kenya Medical Department, in training at King George VI Hospital, Nairobi, has been satisfactory. All of these are expected to sit the examination of the Board during 1961.

The question of senior registrar posts and interchange of registrars with hospitals in other territories continued to be discussed and some little progress was achieved in solving this administratively difficult problem.

At the end of the year, Professor Ian Aird, Professor of Surgery of the Post Graduate Medical School, Hammersmith Hospital, University of London, met the Post Graduate Training Board and discussed its problem of post-graduate education in general and the provision of well-trained African doctors in particular. Professor Aird discussed the importance of characterizing the Nairobi hospitals as teaching hospitals and associating them with Makerere College within the University of East Africa.

NURSES AND MIDWIVES COUNCIL OF KENYA

The Nurses and Midwives Council of Kenya, which is an independent statutory authority, can look back on an interesting year's work.

The new training course for enrolled assistant nurses started in January. This replaces the two previous courses of training for assistant nurses Grade I and Grade II. The syllabus has been revised and is designed to ensure a uniformly high standard of assistant nurse. Reports from the hospitals show that this more advanced course is attracting better educated girls than were previously attracted by the old Grade II course.

During the year 43 girls started the course of training for Kenya registered nurses at the two recognized training schools, as compared with 19 in the preceding year.

The new syllabus for assistant midwifery training was completed, and students taking the two-year course have now to sit a preliminary examination after one year's training. The number of assistant nurses Grade II taking the one-year course of assistant midwifery training is increasing, but the need for trained midwives is still very great.

The committees continue to meet frequently as the volume of work increases, and the full Council continues to meet six times each year.

St. Clare's Hospital, Kaplong and the Consolata Hospital, Nkubu have been approved as training schools for the enrolled assistant nurse training.

During the year the following personnel were registered or enrolled with the Council:—

Registered Nurses	174
Registered Midwives	83
Registered Sick Children's Nurses	2
Registered Mental Nurses	5
Enrolled Nurses	2
Enrolled Assistant Nurses Grade I	43
Enrolled Assistant Nurses Grade II	94
Enrolled Assistant Midwives	57
Enrolled Midwives	1

The results of the examinations conducted by the Council during 1960 are:—

1960	GOVERNMENT TRAINING SCHOOLS			NON-GOVERNMENT TRAINING SCHOOLS			Grand Total of Examinees
	Passed	Failed	Total	Passed	Failed	Total	
Kenya Registered Nurse Final Examination	9	—	9	1	—	1	10
Kenya Registered Nurse Preliminary Examination	7	2	9	7	2	9	18
Assistant Nurse Grade 1 Final Examination	31	2	33	12	1	13	46
Assistant Nurse Grade 1 Preliminary Examination	35	2	37	6	1	7	44
Assistant Nurse Grade 2 Final Examination	41	15	56	49	20	69	125
Assistant Midwives Final Examination	14	4	18	47	12	59	77

Voluntary and Charitable Institutions

THE CENTRAL PROVINCE FIELD ORGANIZATION REPRESENTED BY THE BRITISH RED CROSS AND ST. JOHN AMBULANCE BRIGADE

The number of field officers was reduced during the year to seven. This reduction followed the cessation of the State of Emergency at the end of 1959. African district councils were given the opportunity of continuing this very useful field medical welfare service under their own control but with only one exception they were unable, for financial reasons, to agree to the proposal.

This means that by the end of the financial year, 1960/61, apart from one officer at Dagoretti Childrens' Centre in Kiambu District, only one field officer will remain and she also in the Kiambu District, whose African District Council has accepted the proposals for a gradual take-over of financial responsibility.

The Ministry contemplates alternative arrangements for the continuation of the service in the Fort Hall District where it is considered that two field officers are necessary to deal with the high incidence of malnutrition.

THE CHILD WELFARE SOCIETY OF KENYA

The Society has continued to extend its activities throughout the Colony and during the year a new branch of the Society was opened at Nyeri.

During the year also, the Society engaged a full-time paid childrens' officer who has had extensive experience with the London County Council. She is responsible for implementing the Colony-wide work of the Society and undertakes a good deal of case work in Nairobi.

The Society has been represented upon a working party convened by the Ministry to examine new legislation in the form of a Children and Young Persons Bill.

THE EDELVALE HOME FOR GIRLS

The work of this home as a place of safety and rehabilitation for female children has grown to the extent that the trustees have applied to the Government for a permanent lease of the land which was made available originally on a temporary basis, and have submitted plans for a phased programme of development which will include a place of safety, a nursery school and a training centre. For this work the trustees have applied and received approval in principle for a capital grant of 45 per cent of the total cost.

THE KENYA SOCIETY FOR DEAF AND DUMB CHILDREN

During the year the Society approached the Government with a view to organizing a survey of deafness throughout the Colony and correspondence on this subject was exchanged with the Colonial Office, which is expected to organize such a survey with financial aid from the Nuffield Foundation.

THE KENYA AFRICAN MORAL WELFARE ASSOCIATION

During the year a new society was formed by African members of the public, called the Kenya African Moral Welfare Association. The objects of this Association are twofold; first it aims to prevent prostitution by constitutional means, and it has approached the Government with a view to revising existing legislation on the subject; secondly it aims, by the formation of local committees and in conjunction with existing societies such as the Edelvale Home for Girls, to provide machinery for rehabilitation of juvenile prostitutes. The Association was formed at a public meeting to which the Ministry sent a representative. At this meeting an executive committee was formed upon which are represented the trustees of the Edelvale Trust.

Other voluntary bodies which are supported and encouraged by the Ministry are:—

The Kenya Society for the Blind.

The Kenya Society for the Prevention of Tuberculosis.

The Kenya Society for the Physically Handicapped.

The Kenya Council of Social Services—which is a co-ordinating body working on behalf of all voluntary and departmental bodies active in the field of social welfare.

Survey of the Needs of Children

A survey of the needs of children which was begun in 1959 was completed in December, 1960. Representatives of UNICEF have expressed considerable interest in this report, which is to be submitted at a later date to both UNICEF Headquarters and to the Colonial Office together with the Kenya Government's comments thereon.

The survey deals amongst other things with the various aspects of child health which have engaged the attention of the Medical Department throughout the country. It comments upon the general effort which has been directed towards the improvement and expansion of health measures, the emphasis being upon prevention as distinct from curative medicine. Perhaps the most important single problem in this respect is malnutrition. The child survey, rather than discovering new fields, points to the most urgent needs in the present circumstances on a priority basis, and it is intended that most of its recommendations should be integrated into a national health and welfare programme.

PUBLIC HEALTH

Staff—Recruitment and Training

Only two health inspectors were recruited from the United Kingdom during the year, whilst one African obtained the R.S.H. Certificate for General Overseas Appointments in mid-1960, at Salford and was appointed to take over the Kitui District. At the end of the year, the Division was still five short of establishment.

Four Africans—one from Government and three from local authorities—were in the United Kingdom at the end of 1960, studying for the General Overseas Certificate.

Training of health inspectors (East Africa) continued, but for the second year in succession, no new recruits were taken into the Training Centre. In the examination for third-year students in December, 11 were successful in obtaining the R.S.H. Certificate for Health Inspectors (East Africa).

The training of health assistants continued. Owing to the absence of first- and second-year student health inspectors, a much larger than normal intake was possible.

International Health

The Public Health (Port, Airport and Frontier Health) Rules, 1960, came into force on 22nd January, 1960 and operated smoothly.

Mombasa Port

There was an increase in tonnage dealt with at Kilindini Harbour during the year, but the number of dhows only increased slightly over the 1959 figure and is still much below previous years. The total number of passengers decreased by nearly 10,000 during the year, whilst the number of vaccinations also decreased greatly (over 50 per cent) as compared with previous years.

Food and second-hand clothing required much attention at the port, and complications were introduced by the demand for Export of Food "Health Certificates" by a number of countries, especially those in the Persian Gulf.

The number of *Aedes aegypti* mosquitos remained low and the index for the year was—0.22.

Nairobi Airport

Traffic increased at the airport but caused no undue exertion. The only emergency was caused by the large influx of Belgian Congo refugees, often without proper papers. A closely co-ordinated programme carried out in conjunction with the Kenya Branch of the British Red Cross Society and with local authorities, dealt satisfactorily with all problems and at no time did there appear any threat to the public health.

Close attention has continued to be given to the water supply and food premises at the airport.

The *Aedes* index for the airport remained below 1 per cent throughout the year.

Industrial Health Services

There was for several years an appointment of the Specialist Medical Officer in Industrial Diseases. This appointment has now lapsed but the Ross Institute of Tropical Hygiene have recently opened an office in Kampala to serve the East African Territories; this will help to some extent to offset the loss of the specific post, referred to.

Efforts have been made over the past year to foster development of health services within industry, particularly within that section dealing with the manufacture of foodstuffs.

Environmental Sanitation

There was a new spirit abroad during 1960 in this field. It has always been recognized that the sanitarian has to be a dedicated man not expecting much in the way of thanks or credit for his part in the fight against disease, but 1960, in Kenya has seen some change of heart in many districts and the sanitary staff are taking their places among the respected men of the tribes. Sanitary staff were encouraged to show how to educate and assist in the betterment of living conditions rather than to prosecute and badger people not complying with by-laws as yet not fully understood.

The return to this approach has resulted in some cases in criticism for lack of attention to some matters of public health importance but the intelligent public health worker in Kenya can see that there are so many diverse problems to solve, so many obviously bad conditions crying out for attention, and so little resources in the way of money and staff, that it is necessary to formulate a policy of priorities based on the resources available. To this end, there has been a general tendency to pay less attention to the time-consuming efforts to secure compliance with public health laws in the small foci of urban settlement and to endeavour to improve the basic sanitation in the rural homesteads and villages in which at least five-sixths of the African population live.

Work has continued in all areas, within the limits of staff and finance, on the general control of disease, on food premises and food production methods, routine inspections of all places of public health importance, and in the training and health education of both staff and the general public. Special attention was given to the following aspects of environmental sanitation.

WATER

Efforts to improve water supplies, to make water more readily available and of a better quality, and to collect or find water in the drier areas, have been one of the major operations resulting in a better understanding and better co-operation between health staff and the local peoples. The response to help given in this way is a growing tendency to seek and take advice in other matters. Water improvements have included hundreds of springs protected, wells dug and protected, dams cleared of weeds and improved extraction methods instituted, hydraulic rams to save long hauls up steep hills, storage tanks to reduce delay in collection of water, rock and roof catchments for rainwater, subsurface dams, and co-operation with ALDEV (African Land Development), in a mutual effort to improve water supplies. UNICEF-aided environmental sanitation programmes based on grants of materials for water supplies, latrine and washing facilities, have been commenced in Nyeri, Elgeyo-Marakwet and Tana River Districts. With the arrival of a W.H.O. sanitary engineer, programmes on similar lines are being drawn up for other districts.

LATRINES

Over most of the country this essential item of hygiene is still lacking in the majority of homesteads. Pit latrines are the normal solution, but aqua-privies are now well established in many areas, notably on the Mwea-Tebere Irrigation Scheme, in many labour lines on the Coast Province plantations, in some of the farm labour lines in the dairy and ranching areas, and especially in the Central Province in market places, police stations and beer shops. The position in the Central Province is completely different from the rest of the country. There the enforced discipline during the Emergency has resulted in almost 100 per cent construction and usage.

FIREPLACES

The indigenous tribal fireplace has always been a cause of concern to the health worker. Several attempts have been made to encourage the construction of safer, raised fireplaces, but only in Nandi is there any obvious acceptance of a cheap mud unit. The Kahithe type fireplace in stone has been adopted with minor amendments in some of the more permanent houses in Central Province, but whilst the richer man often builds a stone fireplace in his sitting-room, it is still usual to find the cooking taking place in a smaller kitchen on the traditional three stones.

SEWERAGE AND SEWAGE DISPOSAL

The recent introduction of oxidation lagoons is encouraging the installation of sewerage systems in small towns and institutions where the cost of the more orthodox plant would be beyond local financial resources. Such lagoons are now working or in course of construction at Nairobi Airport (where a third pond has been added), Bungoma, Athi River, Galole, Eldoret, Ngong and Nanyuki, whilst oxidation channels are being introduced at Meru.

HOUSING

Housing, both rural and urban, continues to receive the closest attention. Standards in rural areas continue to improve, with assistance from health personnel, in the form of plans, advice and supervision, and parts of Central Province have now reached a standard which was undreamed of only a few years ago. The standard of housing in the labour lines of many farms still leaves a lot to be desired, and the housing attached to quarries and timber projects is still often appalling. However, the greatest and most urgent need is for more housing in the urban areas, especially in the larger towns.

With regard to the urban problem in particular, the Central Housing Board is still playing its part and loaned over £532,000 during the year; demand, however, still outstrips supply, especially for cheaply-rented or tenant-purchase houses. Several opportunities have been taken during the year to demonstrate the value of an aided self-help housing scheme, and papers, films, and talks have been used with many different groups in an effort to generate interest in such projects.

Forest Settlement

The number and size of forest settlements has been increasing due to the needs of the Forestry Department for additional labour and the necessity of absorbing landless families.

Each family is provided with a plot of land and technical advice is at their disposal regarding modern methods of agriculture and animal husbandry. In addition those employed as labourers for the development and maintenance of the forest plots are given a small supplementary wage which is augmented considerably from their smallholdings.

These villages have posed problems with regard to lay-out, size, design, ancilliary services and social requirements.

The Ministry of Health accepts responsibility for preventive and promotive health measures and discharges this responsibility through the local health authority, the Forestry Department providing dispensary services, with the assistance of the Medical Department.

Malnutrition is a considerable problem amongst these peoples despite relatively good conditions.

Nutrition

The Ministry has long been aware of malnutrition in the Colony and has made constant efforts to achieve improvements. Since 1956, special attention has been given to the more vulnerable groups—notably young children—and clinical and dietary information collected has revealed evidence of multiple deficiencies which may include those of calories, protein foods, iron, riboflavin, nicotinic acid, vitamin A and iodine. In addition, height and weight tables have underlined the fact that a poor nutritional status and subclinical malnutrition are widespread; this is particularly evident in the post-weaning period, where protein subnutrition gives rise to all stages of the kwashiorkor syndrome.

Diseases such as malaria, intestinal parasites and tuberculosis, where prevalent, have been shown to add their effect to that of the essentially inadequate dietary pattern, which is the root cause of these subnutritional states.

More scientific information is required on a wider basis than that of the small pilot surveys so far completed; with this in view, a W.H.O./UNICEF/F.A.O./Kenya Government-sponsored nutrition and dietetic survey has been started and will continue over the next three to four years; at the end of this period it is hoped that sufficient knowledge will have been gained for it to be possible to advocate a scientifically planned food policy.

Services to Handicapped Children

Efforts being made by the voluntary societies, although little more than token in the present state of development of the health services are a useful contribution in the fields of both relief and prevention.

THE BLIND CHILD

A blind school, run by the Salvation Army at Thika, has nearly 200 boys and girls in residence: there is also a small Sunshine Home for blind pre-school children.

A trade training centre run by the Kenya Society for the Blind exists at Machakos having accommodation for 50 trainees mainly adults: here training is given in tanning and carpentry. The primary object is to establish rural tanneries run by blind persons. The first such tannery is now established at Kinunga near Nyeri.

In Nyanza Province a school for the blind has been established at Aluor Primary School which it is hoped will be expanded to accommodate 50 children. At the other end of the country at Meru St. Lucy's School has 46 blind children in residence.

In addition to these efforts to solve the problem posed by the already blind, the Kenya Society for the Blind, in conjunction with the Ministry, has organized a one-man mobile unit to visit schools, examine children and provide treatment where necessary; and to educate both teachers and children in the prevention of blindness particularly from trachoma. Numbers visited to date are:—

Children examined 30,706; treated 2,038; with trachoma 1,772; and with conjunctivitis 266.

Some 184 schools have so far been examined in the Machakos District.

THE DEAF CHILD

During the year the Society for Deaf and Dumb Children obtained supplies of an inexpensive hearing aid and has been supplying them at cost price to suitable deaf children. The deaf children are referred to the Government Ear, Nose and Throat Specialist in Nairobi for definitive diagnosis and assessment of the degree of deafness. Suitable cases are then fitted with hearing aids and given subsequent speech training. The continuing flow of cases coming forward from all over the country emphasizes the need for establishing residential accommodation.

At present temporary arrangements have been made to accommodate some children at Dagoretti Childrens' Centre whence they attend a voluntary weekly clinic at King George VI Hospital for speech training.

The Society is fostering interest in the problem and encouraging the development of educational facilities for deaf children, and is also encouraging teachers and others to undertake training in the teaching of deaf children. The problems of training are complicated by the multiplicity of languages.

THE CRIPPLED CHILD

The Association for the Physically Disabled of Kenya operates a hostel and training centre where disabled Africans are given accommodation and instruction in boot repairing by a qualified instructor. Others are accommodated there whilst undergoing a course of instruction in dressmaking at the Singer Dressmaking School. The Association assists such trained persons in setting up in business by the provision of working tools and an initial supply of materials. Maximum accommodation at the moment is 13.



Poliomyelitis—rehabilitation of a paralysed patient



Poliomyelitis—prevention with oral vaccine

School Health

The limitation of financial resources, both those available to the Central Government and to the local governments, has prevented the development of the type of school medical services such as exists in the United Kingdom. Instead, development has followed the American pattern in which reliance is placed upon the teachers detecting those children who appear to be in need of medical assistance, and their subsequent referral to a medical centre.

Certain local authorities have recently shown an interest in the further development of their school health services and in the initiating of schemes for the issuing of milk to school children.

Health Education

Production of education materials was continued during the year at about the usual levels. The demand for two-dimensional aids such as flannelgraphs and booklets continued to exceed that for three-dimensional models, due largely to the fact that there are now a considerable number of models distributed throughout the country; these are of course more durable than the paper aids. A further four titles were added to the list of flannelgraph cut-out books and, with the valuable co-operation of the Department of Information, a new picture booklet and several types of picture throw-aways were produced.

The scope of the photographic section of the unit was again expanded and early in the year a new technique of colour photography was introduced. This was used to illustrate the theme of "Better Living" in the Medical Department's exhibition at Mitchell Park and the Ministry of Health was awarded the first prize certificate and the Evelyn Baring Cup for the best government stand. This colour process is also being used with advantage in the production of colour slides and filmstrips for teaching.

The health education demonstration van and its crew spent a considerable time in the field during the year, largely on campaigns directed towards the eradication of tapeworm. From the "follow-up" surveys made, it would appear that these campaigns attained considerable success. The demonstration van, which was presented to us by UNICEF, has reached the end of its useful working life and is to be replaced by another and more suitable vehicle. Three more vehicles are to be given to us by UNICEF, in recognition of the success of this initial venture.

A considerable amount of elementary training in the principles, methods and techniques of health education has been carried out during the year. This teaching continued to be integrated into the curricula at the Medical Training Centre and at the Community Development Training Centre at Jeanes School. Extra-mural courses were also held at the Medical Training Centre and at Jeanes School and numerous introductory talks were given in the field.

Visitors from international agencies and from conferences held in Nairobi attended the unit during the year and expressed intense interest in the work being carried out.

As in previous years, the two main problems facing the unit are the shortage of staff and the inadequacy of the buildings in which the unit is housed.

Rural Health Services

These services are focused on the development of the rural health centre, about which a visiting consultant recently wrote as follows:—

"There is no doubt that the health centre scheme as it is developed in Kenya is a major contribution to the solution of some exceedingly difficult problems in health service provision in less well-developed countries."

The health centre as developed in Kenya is an institution where all three branches of the health service, curative, preventative, and promotive are co-ordinated and from which these services radiate out into the homes and the community. This service is mobile as well as static and can thus be developed to satisfy the needs of the pastoral as well as the agricultural areas. There is, moreover, no intention of establishing a rigid pattern for the whole country as differing local conditions obviously need to be met in different ways.

The centres are controlled and managed by local health authorities the majority of which come under the jurisdiction of African district councils in whose areas the medical officer of health is responsible both for the curative and preventive health services. The service is simple though comprehensive and covers the needs of the people in all basic health problems from the control of epidemics, environmental sanitation, development of water supplies and domiciliary services, to simple diagnostic and therapeutic facilities. Finally, the health centre is a local institution and its team of workers live as well as work in the district and take part in all community activities.

During 1960, 14 health centres were completed together with six health subcentres, making the present total for the Colony of 130 centres. The fundamental difficulty of the further extension of these services lies in providing an adequate supply of trained staff of all grades.

Through the generosity of the Rockefeller Foundation the sum of £50,000 has been made available to Kenya to develop a Health Centre Training Unit where training, administration, and research may take place. It is proposed that this centre, which is to receive the assistance of W.H.O. and UNICEF by way of staff and equipment, will train teams of workers in three month courses. The institute which will cost approximately £40,000 is being sited adjacent to an African township some 12 miles from Nairobi where conditions are ideal for teaching. A further sum has been made available by the Rockefeller Foundation for epidemiological research to evaluate the work being done from health centres.

Communicable Diseases

SMALLPOX

In the 1959 annual report a histogram was published drawing attention to the fact that epidemics of smallpox followed shortly after periods of stress on the health services. The Emergency, centred on the Central and Rift Valley Provinces, was such a period. The accompanying small wave of smallpox (alastrim) is shown by the following table.

				<i>Rift Valley Province</i>	<i>Central Province</i>	<i>Colony Total</i>
1955	..	..	..	—	—	61
1956	..	..	..	64	97	374
1957	..	..	..	364	182	806
1958	..	..	..	335	158	735
1959	..	..	..	132	44	316
1960	..	..	..	22	25	151

During the latter four months of 1960, a small epidemic occurred in the Malindi Subdistrict of Coast Province. The primary case in this outbreak was a migrant from Dar es Salaam and the next two cases were direct contacts. It was not until the occurrence of the fourth case that the health authorities were notified, when routine measures were immediately organized, but by this time it was too late, and a total of 36 secondary cases occurred before the outbreak was finally controlled.

The population of the subdistrict is approximately 50,000 giving an attack rate of 72 per 100,000 and this despite vaccination of 47,000 (i.e. 94 per cent). The failure to suppress the outbreak was due to the failure to achieve early notification of the primary case and to the low proportion of successful vaccinations. This failure rate, from sample figures, would appear to have been 25 to 50 per cent and illustrates the difficulty of mounting a successful vaccination campaign in the adverse circumstances of tropical rural areas.

The total incidence of smallpox in 1960 was 151 cases (five deaths). The distribution being:—

				<i>Total</i>	<i>Deaths</i>	<i>Attack Rate Per 100,000</i>
Coast	..	..	..	54	3	8.8
Nairobi City	..	..		17	—	7.62
Central	..	..	..	25	—	1.5
Rift Valley	..	..		22	1	2.7
Nyanza	..	..	..	15	—	0.68
Southern	..	..	..	14	1	1.8
N.F.P.	..	..	..	4	—	1.36
Colony	..	..	..	151	5	2.3

The attack rate for Nairobi City was in fact lower than the figure shown, which is the result of a calculation based on the normal population at any one time and which made no allowance for the considerable changeover of the population during the course of a year. Rural populations are by comparison much more static.

The total vaccine issued during the year amounted to 1,830,789 doses, sufficient for approximately one-third of the population.

POLIOMYELITIS

The prediction that a further epidemic of poliomyelitis would commence in the last quarter of 1959 and extend through 1960 unfortunately came true, and a dramatic rise in cases occurred during the last few weeks of 1959.

These portents indicated the probability of an epidemic of poliomyelitis far greater than had occurred in previous years and one which would involve at least 2,000 cases.

On this assumption, and knowing that it would be a type I virus confining itself mainly to young children, the decision to use live attenuated oral poliomyelitis vaccine was made as the only practical solution, following consultation with various authorities including experts from the South African Foundation for Poliomyelitis. Field campaigns were organized on a district basis after a pilot trial in one specific district.

The basis of the campaign was that the vaccine would be given free to children under five and that a charge of Sh. 1 would be made to those over five so that the costs of the vaccine would be met.

The decision to treat children up to five free was made because the disease is essentially an infantile poliomyelitis in Kenya—some 90 per cent of cases occurring in the under sixes.

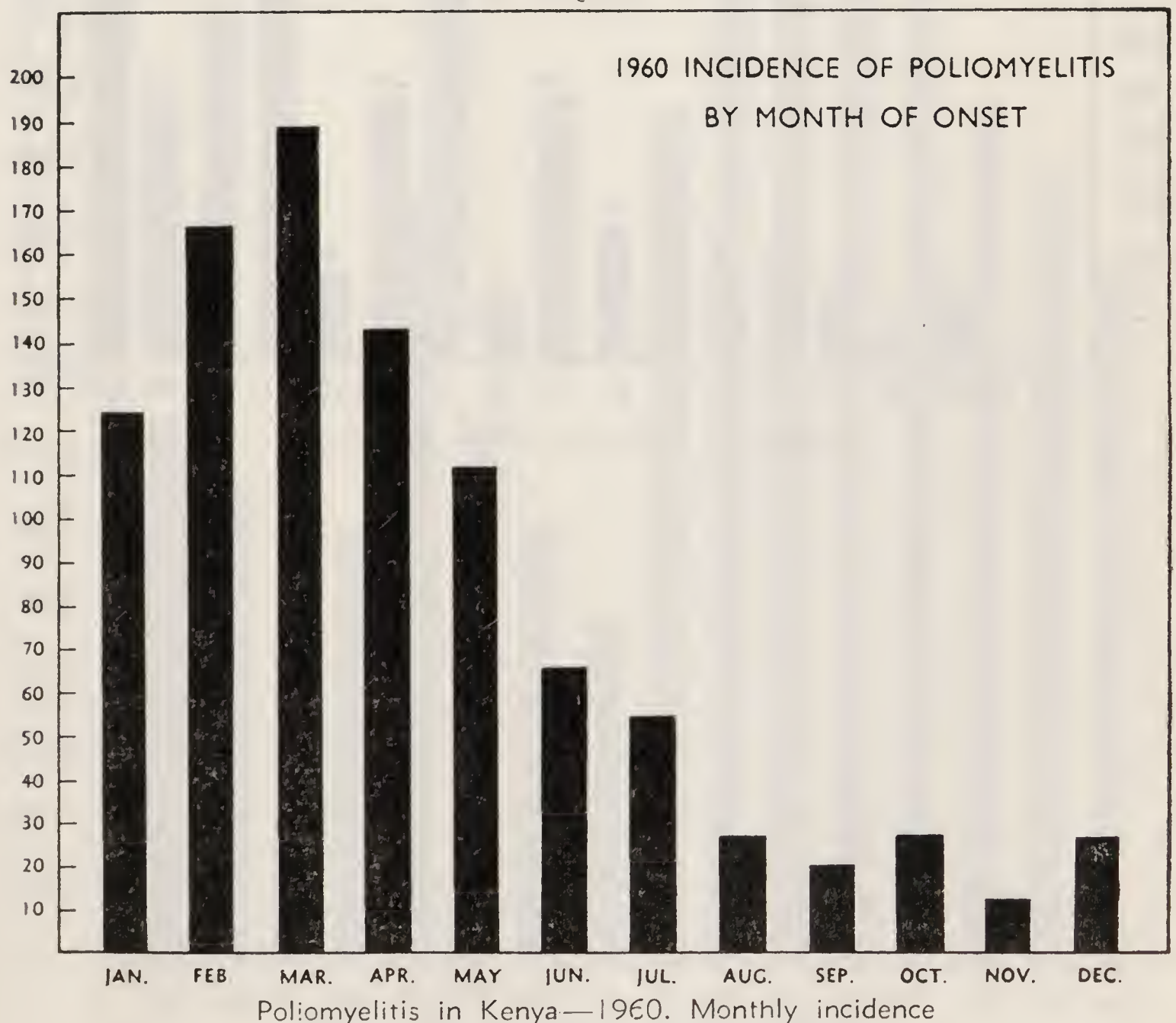
Some $1\frac{3}{4}$ million doses of vaccine were exhibited, commencing in February and ending in December: of these 610,061 doses were given to children under six years old. The estimated Colony population of this latter group is 1.3 million.

A provisional analysis of returns reveals that during the six calendar months subsequent to the vaccine campaigns a total of 137 cases occurred amongst the non-vaccinated child population as compared with 59 cases amongst the vaccinated children. These figures give attack rates of 19.6 and 9.6 per 100,000 for children under six years of age.

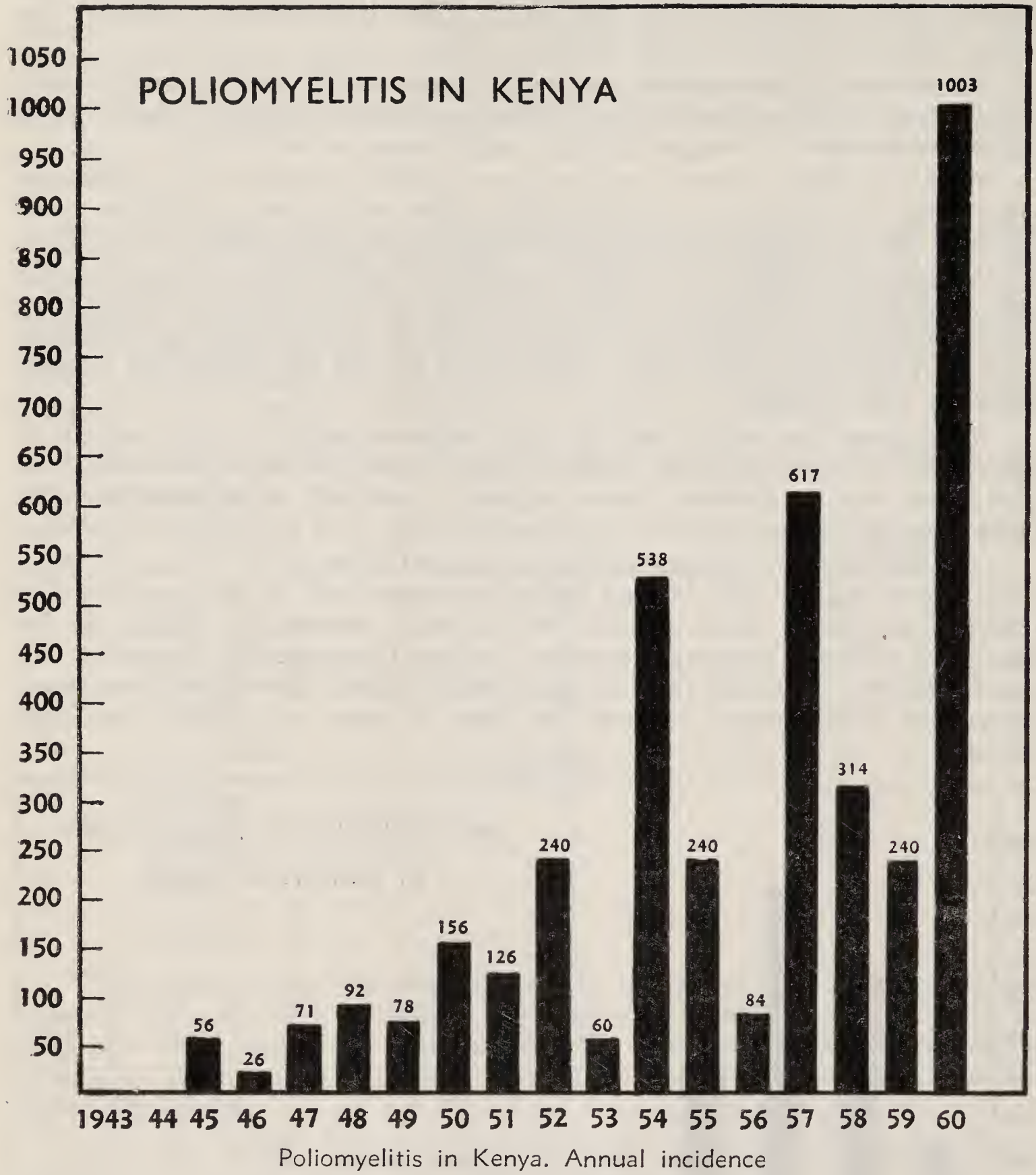
Throughout the year a total of 1,003 cases occurred to which should be added the 138 cases occurring during October, November and December, 1959. This is less than the number of cases originally predicted; nevertheless this is the highest annual total on record with a prevalence rate of 16 per 100,000 population.

The 1957 epidemic commenced in November/December of 1956 and rose to a peak by mid-June, 1957, waning during the second half of the year. The 1960 epidemic was much more explosive in its onset commencing during the last quarter of 1959 and showing a dramatic increase (October: 27; November: 43; and December: 68) to 189 cases in the month of March. Thereafter the epidemic waned and from August onwards less than 30 cases per month were being reported.

Histogram A



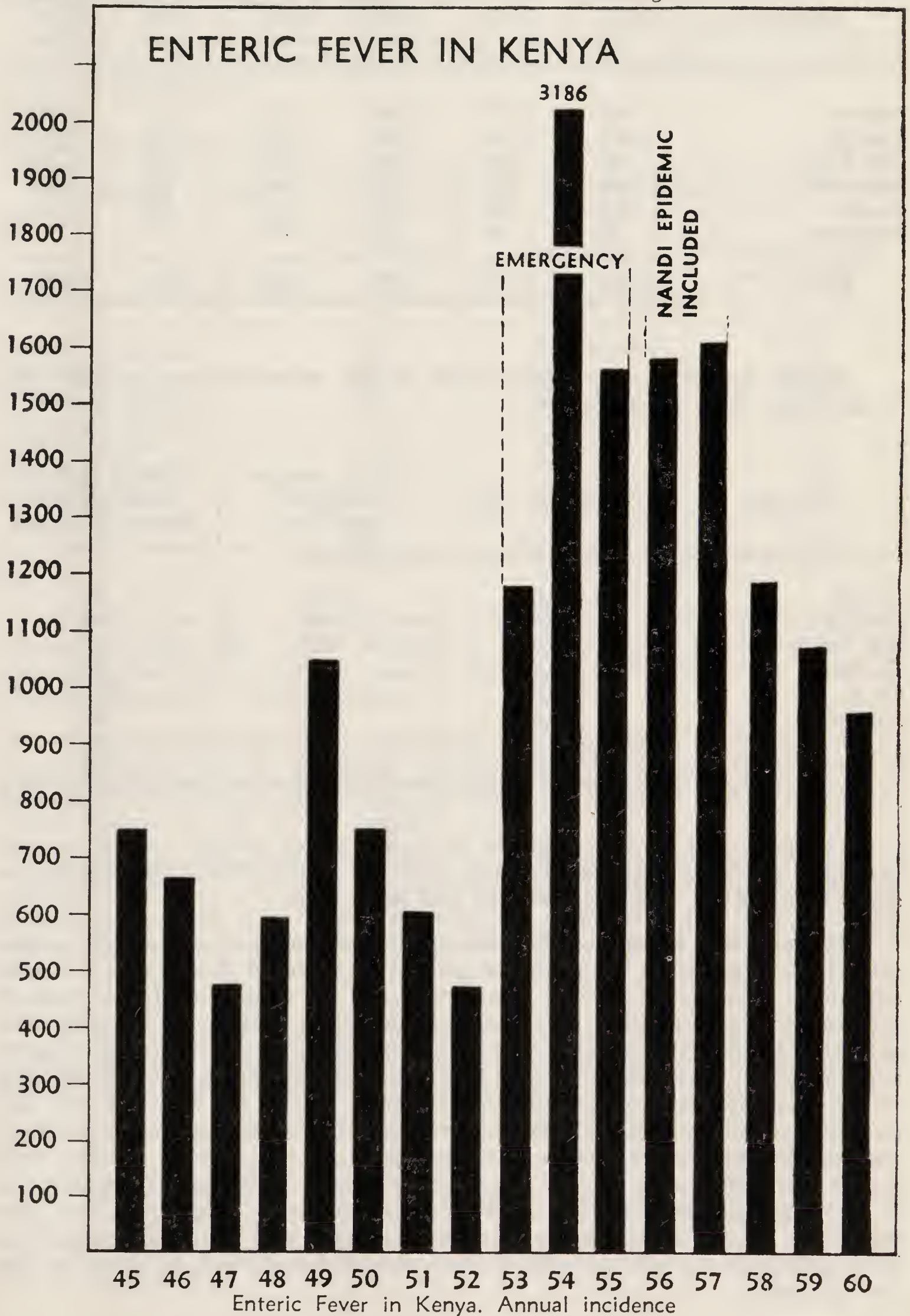
Histogram B



ENTERIC DISEASES—TYPHOID

The downward trend of typhoid notifications, in the post-Emergency period, noted in last year's annual report, continues, with a total of 988; this is the first year that a three figure total has been reported. Once again analysis of the figures reveals that a majority of cases (615) occurred in Central Province. This gives an attack rate of 33 per 100,000 in Central Province, compared with 16 per 100,000 for the Colony as a whole.

Histogram C



TUBERCULOSIS

The annual incidence of tuberculosis, based on the weekly notifications of infectious diseases compiled by medical officers of health, is given below, by provinces, for each of the five years 1956-1960.

Province	1956	1957	1958	1959	1960	Total 1956- 1960
Nyanza	567	1,057	1,141	737	753	4,255
Central	2,967	3,143	3,888	3,937	3,544	17,479
Rift Valley	337	545	599	643	610	2,734
Southern	340	551	730	600	760	2,981
Coast	765	784	925	851	314	4,139
Northern	80	94	104	100	123	501
KENYA ..	5,056	6,174	7,387	6,868	6,604	32,089

Annual incidences per 100,000 based on the estimated population for the middle year, 1958, are as follows:—

Province	Population, 1958	Average Annual Incidence, 1956/1960	Average Annual Incidence per 100,000 1956/1960
Nyanza	2,170,000	851	39
Central	1,750,000	3,496	200
Rift Valley	766,000	547	71
Southern	750,000	596	80
Coast	580,000	828	143
Northern	220,000	100	46
KENYA ..	6,236,000	6,418	103

The provincial incidence indices as shown above parallel, in general, the provincial prevalence figures emerging from the W.H.O./UNICEF tuberculosis surveys carried out in Kenya over the past three years.

Although it is appreciated that the tuberculosis incidence and infection rates must to a large extent relate to the general standard of living and of health education, nevertheless specific measures aimed at reduction of the pool of infection and at protection of uninfected individuals such as BCG vaccination are being steadily implemented. Laboratory facilities for the control of hospital and domiciliary treatment by means of sputum cultures and drug sensitivity tests of the bacilli isolated are extending satisfactorily. During the whole of 1957 just over 500 sensitivity tests were done on strains of tubercle bacilli isolated from patients; by the end of 1960 it was possible to do this number of tests each month. For some years now a token amount (some 20,000 doses annually) of BCG vaccine has been made available free of charge to local authorities: this measure is proving acceptable and the more advanced and more highly organized local authorities are now purchasing their vaccine requirements in excess of this free allocation.

A series of investigations under Medical Research Council protocol have been under way in East Africa for the past five years, directed primarily at finding an effective, safe, acceptable and inexpensive alternative to para-aminosalicylic acid as a companion drug for isoniazid in the treatment of tuberculosis. A recent trial (reported in *Tubercle* for December, 1960), has shown considerable promise that this aim has been achieved. If this promise is substantiated by the results of the current out-patient investigations the saving to the drug vote will amount to some £20,000 per year.

An international seminar on tuberculosis in African countries, attended by some 45 delegates met in Nairobi in November, 1960, under the joint aegis of C.C.T.A. and W.H.O.

CEREBROSPINAL MENINGITIS

Total cases reported for the year were 561 with a distribution as follows:—

	No. of Cases	Population	Prevalence Rate per 100,000
Central Province ..	98	1·8 million	5·4
Rift Valley	162	·80 „	20·00
Nyanza Province ..	266	2·18 „	12·00
Southern Province ..	26	·74 „	3·7
Coast Province	7	·60 „	1·1
Northern Frontier ..	1	·21 „	·48
Nairobi City	1	·22 „	·45
COLONY	561	6·55 „	8·56

These figures show, as compared with 1959, a considerable reduction in Central Province (160), a fair increase in the Rift Valley Province (111) and almost double the number of cases in Nyanza Province (135). The figures in brackets indicate the 1959 incidence.

It will be seen that there is a high attack prevalence in the Rift Valley Province; of the total of 162 cases, 95 came from the highlands settled areas. In Nyanza Province out of the total of 266 cases, 166 occurred in Kericho District which again is a part of the highlands area.

These figures have to be interpreted with caution as there is a considerable movement into and out of the highlands area of the Rift Valley Province by migrating labourers. The correct prevalence is probably lower than the figure shown which relates to the population estimated to be living there at any one time.

LEPROSY

A total of 1,470 cases were notified, of which 1,188 were notified from Nyanza Province reflecting the fact that of the estimated 25,000 cases in the Colony some 20,000 inhabit Nyanza Province.

The breakdown by Nyanza Province districts is as follows:—

Central Nyanza	724
Elgon Nyanza	161
North Nyanza	199
South Nyanza	96
Kericho	8

Whilst the breakdown by provinces is as follows:—

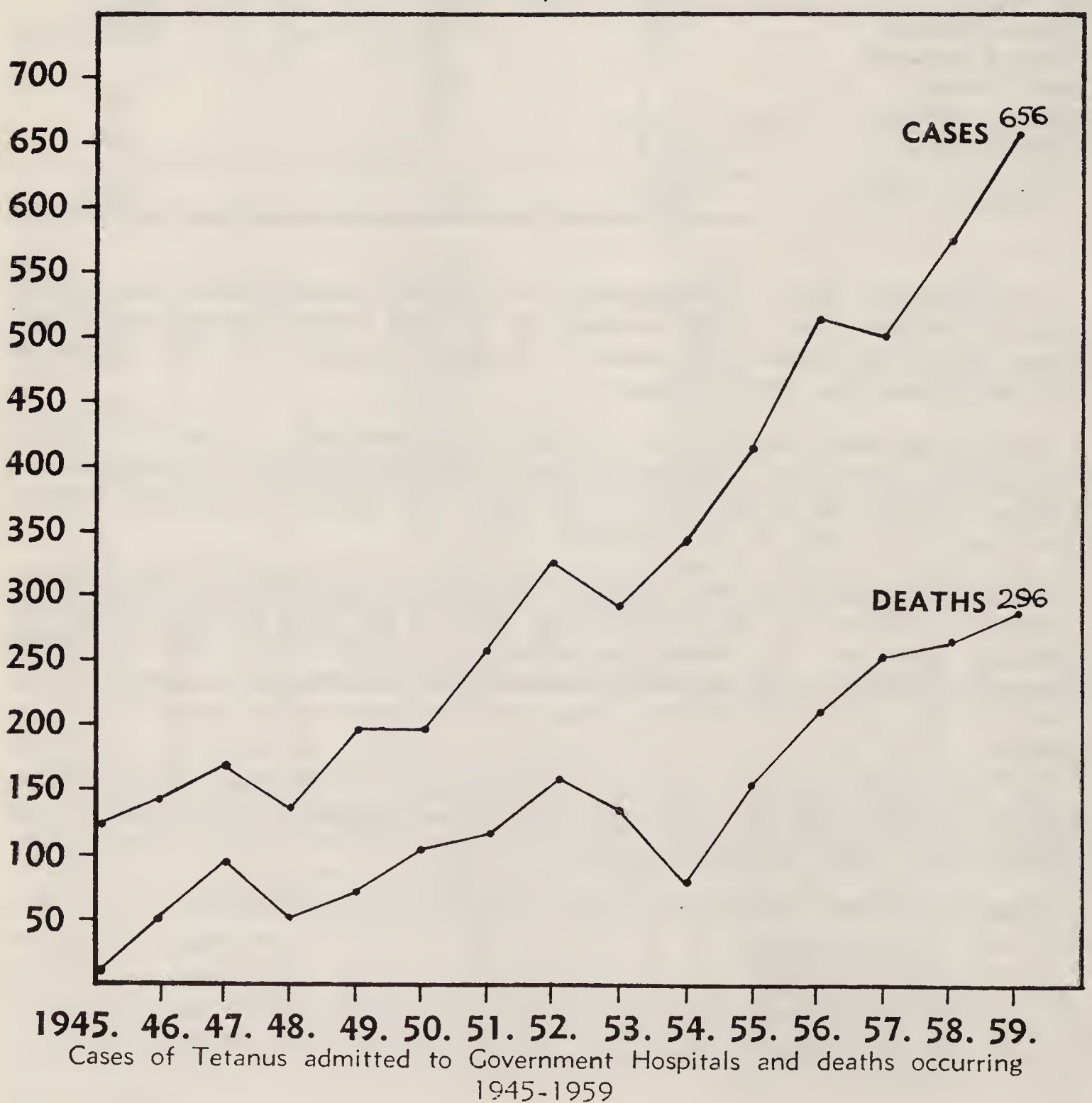
Nyanza Province	..	..	..	..	..	1,188
Central Province	..	..	..	..	..	27
Rift Valley Province	..	..	..	..	..	16
Southern Province	..	..	..	..	..	62
Coast Province	..	..	..	..	..	177

Central Nyanza District appears to be the most heavily infected area and some 10,000 cases have come under the attention of the health services. Of this total two-thirds are regular attenders at clinics whilst one-third appear to default.

TETANUS

Despite its apparent lack of importance as a cause of morbidity the importance of tetanus as a cause of mortality is revealed by studying hospital statistics. In the past, hospital statistics indicated that the proportion of cases of tetanus per 100 hospital admissions was rising steadily and that the case mortality rate had remained relatively unchanged over the past ten years, whilst the ratio of hospital deaths due to tetanus, stated as a proportion of all hospital deaths, has risen steadily.

Graph I



Further analysis suggests that tetanus is predominately of the neonatal variety in Coast Province, but mainly of school age children throughout Central and Nyanza Provinces. These three Provinces are mainly agricultural areas (as opposed to pastoral) and have the highest prevalence of tetanus.

Investigation into the cause of the predominance of the neonatal variety at the coast reveals that it is due to the practice of the Giriama tribe who rub dirt and ashes from the hut floor into the freshly-cut umbilical cord.

It is hoped to overcome this, without attempting to disrupt the tribal custom, by advocating the use of sterilized ashes taken directly from the embers.

Arrangements have been made for the supply of tetanus toxoid at approximately a penny per dose, to local health authorities, for use for mass prophylaxis of those most at risk.

BILHARZIA

The problem of bilharzia divides itself into two separate and distinct parts: that of endemic bilharzia and the problem of bilharzia in association with irrigation schemes.

The map below shows the distribution of bilharzia and a rough assessment is that approximately 1,000,000 persons are infected with schistosomiasis. It will be seen from the map that distribution of *S. haematobium* is mainly along the coast and in an extension along the Tana River. *S. haematobium* is however also found in the area of the Galana River, in the vicinity of Nairobi, and in the Kano Plains. *S. mansoni* is found in the Kerio Valley and the Central Province whilst the double infection is found in Kamba territory, the Kano Plains and Taveta.

In general it might be said that *S. haematobium* occurs at the lower altitudes, the double infection at altitudes between 2,000 and 5,000 feet, and over 5,000 feet only *S. mansoni*.

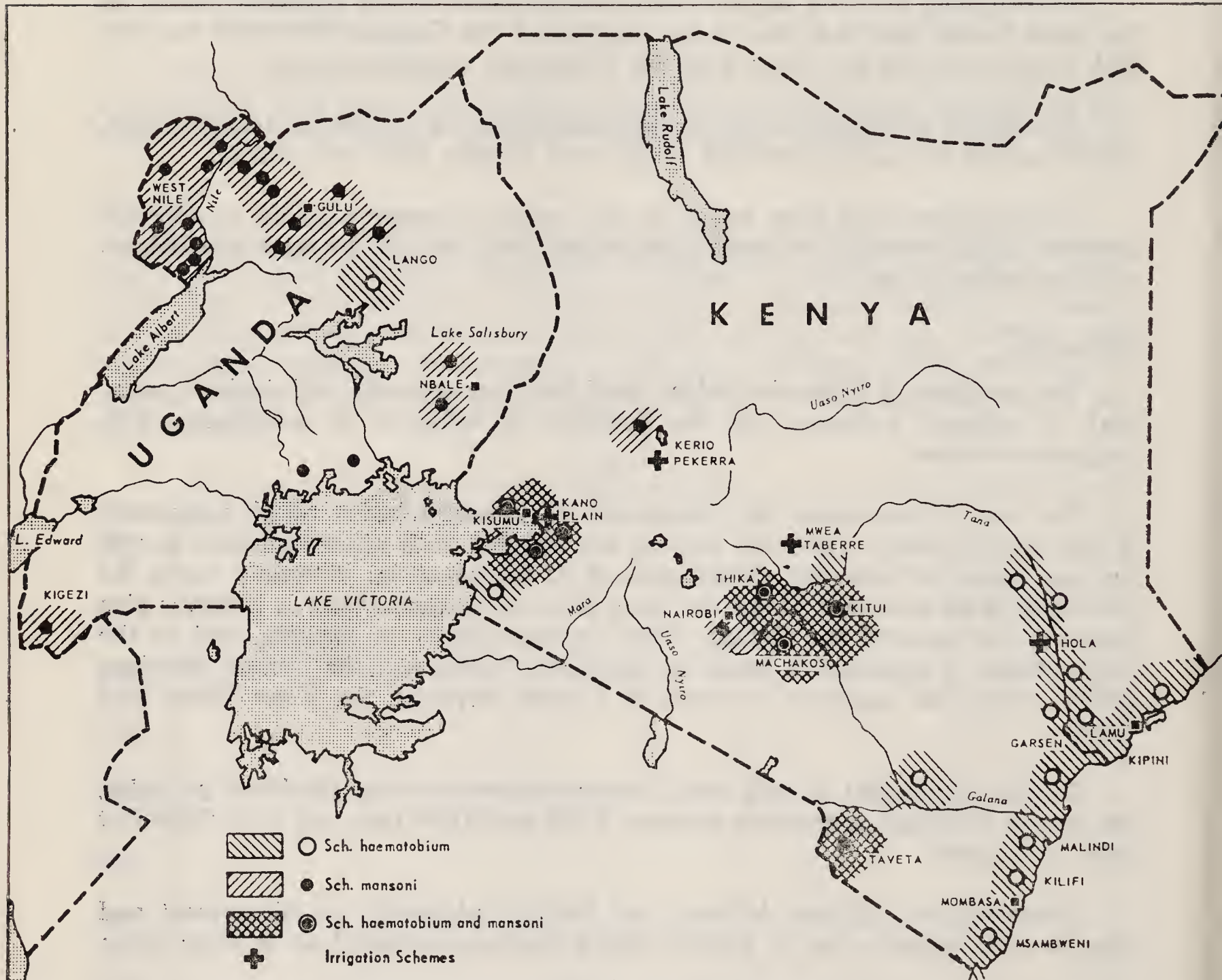
Biomphalaria, *Bulinus bulinus*, and *Bulinus physopsis* are all present and there is also evidence that *B. forskali* may be an intermediate host in some areas.

There is as yet little evidence that bilharziasis contributes a great deal to serious morbidity and mortality rates, but it must of course aggravate the general picture of subnutrition.

With regard to irrigation schemes there are at present three main ones, namely those at Mwea Tebere, Perkerra and Galole, but it is probable that irrigation schemes in general will extend in scope and magnitude. As such schemes usually develop in potential bilharzia areas, three main problems are posed.

- (a) The development of irrigation schemes in potential bilharzia areas, i.e. where the intermediate host is present and persons from known bilharzia areas are introduced.
- (b) The development of irrigation schemes in known bilharzia areas and the introduction of persons from bilharzia-free areas.
- (c) The development of irrigation schemes in known bilharzia areas for local inhabitants.

The former presents the problem of the probable introduction of bilharzia into areas currently free; the second the problem of exposing adults to first infection possibly at a later date than usual with a consequent impact on the normal process of immunity development. The third poses the problem of possible increase in intensity of endemic bilharzia.



Distribution of Bilharziasis in Kenya

These problems can be solved as evidenced by the Miwani Sugar Estates located to the north-east of the Kano Plains, where by the use of efficient irrigation systems, involving pipes for the main distribution, rationing of water supplies, modern-type machinery and herbicides, bilharzia is practically non-existent.

At Perkerra control over the irrigation scheme was advocated from the inception of the scheme.

Biomphalaria was discovered and the canal system was treated with copper sulphate; a vigilance service is now maintained and copper sulphate applied as and when indicated.

At Galole where an irrigation scheme has been developed in a known endemic area and an immune people introduced, a vigilance service is also maintained.

At Mwea Tebere an area where previously only a small focus was known there has been a considerable increase in the incidence of *S. mansoni* infection over the past three years. The infection appears to be confined mainly to three villages, two within the scheme and one outside the boundary.

The table below shows the incidence of bilharzia at Mwea Tebere over the past five years and reflects a considerable increase in bilharzia over the years despite measures which have been applied. *Biomphalaria* and *Bulinus* have been found in considerable numbers throughout the scheme and of 17,000 specimens collected between March and May, 1959, 282 were found to be shedding cercariae.

The installation of proper water supplies, laundry and sanitation facilities are imperative if risks of pollution and infection through the system is to be curtailed to a minimum.

TABLE ON BILHARZIA CASES, 1956-1960
Mwea Tebere Investigation

			No. of Persons Examined	No. OF CASES DISCOVERED		
				Haematobium	Mansoni	Total
1956	..	..	1,144	—	15	15
1957	..	..	609	2	21	23
1958	..	..	2,087	1	14	15
1959	..	..	4,924	3	102	105
1960	..	..	1,592	—	182	182
TOTAL ..			10,356	6	334	340

MALARIA

Malaria continues to be one of the most important endemic diseases, and is still the cause of much morbidity and mortality.

Control measures are largely limited to the urban areas where they are in the main effective. Rural areas however remain uncontrolled except for specific areas such as Nandi, Shimba Hills Settlement Scheme, and the environs of Malindi where control measures have been instituted. The Nandi scheme, based on an initial exhibition of daraprim and followed by residual insecticide spraying continues to cause anxiety. A malariometric and parasite survey carried out by W.H.O. indicated that Malaria transmission was recurring and that epidemics were a possibility. The exhibition of darachlor on a fairly extensive scale in order to obviate the problem maintained the *status quo*. The incidence of malaria in the Turbo-Kipkarren area which was included in the original scheme, has also increased considerably during the year under review.

With regard to the Shimba Hills area, control is effected through the fortnightly exhibition of darachlor and appears to be successful, whilst in the Malindi area it is proposed to attempt a combined insecticide programme with Camoprim drug exhibition.

In certain rural areas particularly in Nyanza Province the irregular construction of fish ponds in a very laudable attempt to raise the protein intake of the inhabitants appears to be giving rise to a marked increase in the incidence of malaria.

The question of the attempted control of malaria in endemic and holo-endemic areas is subject to considerable thought, and it is considered that any attempted programme should rely on both drugs and insecticides. Before such a programme is undertaken a study of the results of malaria eradication programmes in other areas is essential.

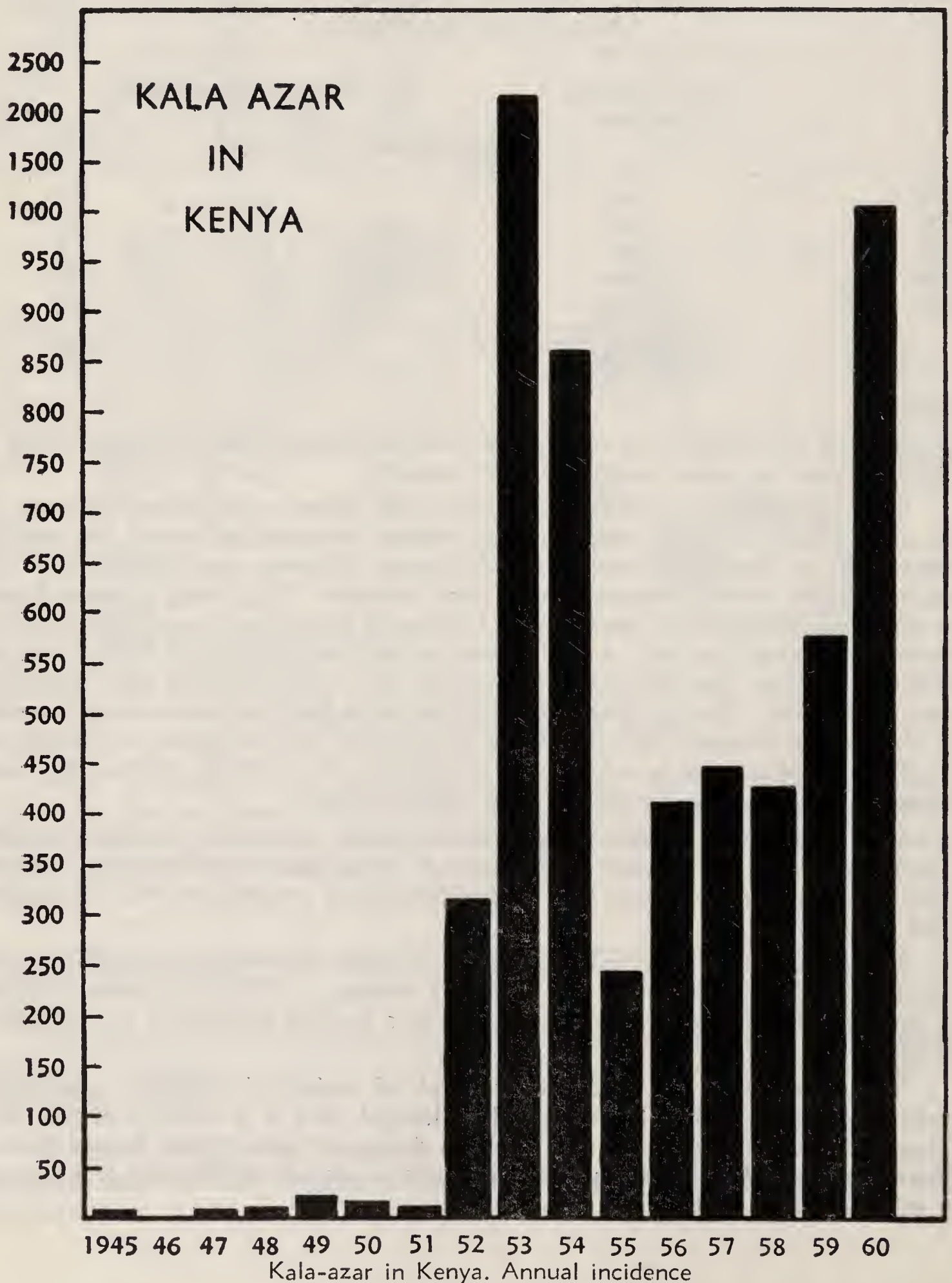
KALA-AZAR

Kala-azar is a disease of post-War II importance in Kenya and much has been published regarding its field epidemiology including that of a major epidemic in Kitui District during 1952/1953/1954. Therapeutic and entomological research continue whilst, at present, a most important research project on the use of a vaccine is undergoing field trials.

The main epidemiological interest lies in the fact that whereas previously Kala-azar was believed to be confined to the Northern Frontier Province, it is now endemic in those districts which lie directly to the south of that province.

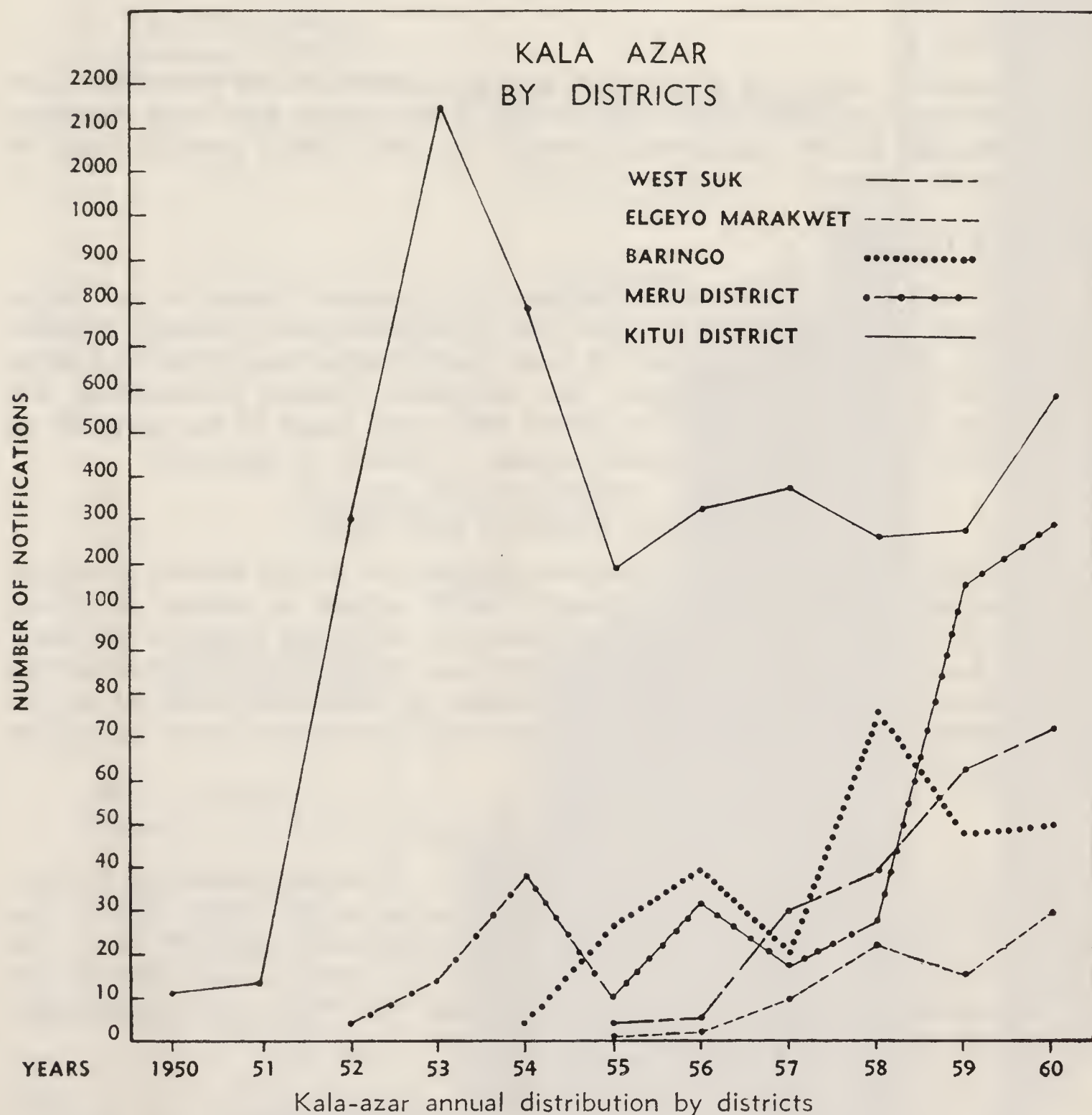
These districts all have a similar ecology and their peoples are mainly pastoral. Most of this country lies below 3,500 ft. and is dry and arid, being covered by scrub and thorn bush. The average rainfall is under 30 inches.

Histogram D



The incidence of the disease as shown in the histogram D has increased steadily from 1955 onwards. This picture is reflected in all the affected districts, as reference to the graph No. II reveals. The graph and histogram reflect an exponential curve at an accelerated rate and this picture follows closely on that seen in the Kitui District which lead to the epidemic of 1952/1953/1954.

Graph II



SLEEPING SICKNESS

Reference to the table of notifiable infectious diseases (*see statistics*) will show that 59 cases were reported during 1960. This was a slight increase.

Of these cases six were notified from South Nyanza District, one from Kericho District (probably contracted in South Nyanza) and the remainder (52) from Central Nyanza District.

With regard to the South Nyanza cases these were discovered through an extensive survey involving 10,000 people, and therefore reflect the almost complete control established over *T. gambiense* trypanosomiasis in this area.

With regard to Central Nyanza an assessment of the problem is more difficult since a proportion of the cases arose from the lake shore in the north-west area of the district and it is not known whether the infection was obtained in Kenya or Uganda—the patients being fishermen.

The tsetse eradication programme continues satisfactorily and the future programme envisages control of the remainder of the South Nyanza lake shore and the North shore of the Kavirondo Gulf.

The possible infiltration of *T. rhodesiensi* by the vector *G. palidipes* is under close watch.

FILARIASIS

The general survey on the Coast is nearly completed. Night bloodslides have been examined from more than 5,000 people; 1,500 animals have been examined and more than 45,000 mosquitoes dissected. The only filarial parasite found in man was *W. bancrofti*.

VENEREAL DISEASES

Study of the hospital returns indicates that venereal disease is now being treated as an out-patient disease rather than an in-patient one. It is also probable that due to the increasing numbers of rural health centres established and being established throughout the country the out-patient returns at hospitals will continue to drop, but the extent to which this is the result of the deviation of the patients from hospitals to health centres is difficult to determine.

PERSONAL HEALTH SERVICES

Although the number of new doctors registered in Kenya showed a marked decrease from 1959 there was an apparent small increase in doctors in private practice. The number of general practitioners in the larger towns is adequate. There is however room for many more practitioners in the smaller centres serving the rural areas, which at present are dependent on hospital out-patient departments, health centres and dispensaries run by the Government, local authorities and missions.

Out-patient Services

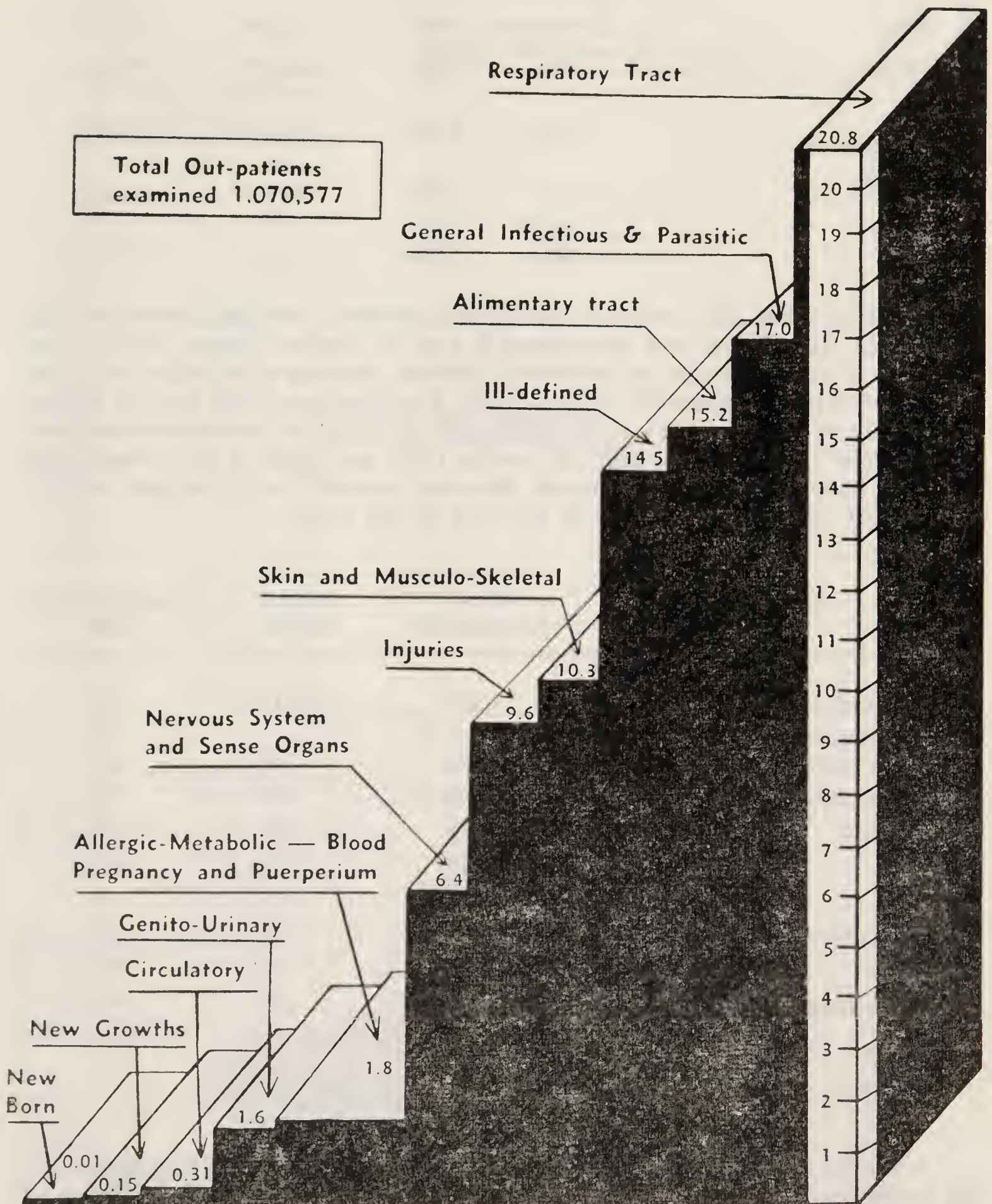
For the third year in succession the number of patients attending Government hospital out-patient departments and dispensaries has risen, and for the first time since 1956, when the Nairobi General Dispensary was still run by the Medical Department, has exceeded a million. The increase over 1959 is 14.3 per cent which is approximately 12 per cent more than would be expected from the natural increase in population.

NEW AFRICAN OUT-PATIENT ATTENDANCES

1957	..	..	..	991,454
1958	..	..	..	894,411
1959	..	..	..	992,652
1960	..	..	..	1,134,675

Major out-patient morbidity in Government hospitals is shown at histogram E. Figures are not available for out-patient attendances at all the health centres and dispensaries run by local authorities, missions and industrial concerns. However as an example, the Medical Officer of Health, Fort Hall District, which has a population of approximately 350,000, reported 115,049 new cases attending three health centres and 11 dispensaries. From this it would appear that the equivalent of about one-third of the population made use of the Local Authority out-patient services.

Histogram E



A histogram showing by disease groups the principal causes of morbidity among out-patients at Government hospitals

In-patient Services

There was no major expansion in hospital beds during the year. In Mombasa the ward block constructed as the third phase in the Coast Province General Hospital was opened; this gave more space but only a few extra beds, for beds had had to be placed on the verandahs of the earlier ward block to meet the needs of the patients requiring admission.

The total number of in-patients treated was the highest since 1957, i.e. since charges were introduced for in-patient treatment in the basic wards.

ADMISSIONS—HOSPITAL

<i>Year</i>				<i>European</i>	<i>Asian</i>	<i>African</i>	<i>Total</i>
1957	..	..	..	912	2,526	168,852	172,290
1958	..	..	..	958	3,593	150,721	155,272
1959	..	..	..	798	2,792	150,132	153,722
1960	..	..	..	832	3,050	153,142	157,024

There has been little change in the disease pattern of hospital admissions and deaths. See table below and histograms F and G. Normal labour (10,024) was again the commonest cause of admission although showing a reduction of 16 per cent (2,014 cases) compared to 1959 (12,038). Broncho-pneumonia was the highest single cause of death with a case mortality rate of 19 which showed no significant change from 1959. Tetanus with 303 deaths (327) was again a surprisingly high cause of hospital mortality although the case mortality rate dropped slightly from 46 per cent during 1959, to 42 per cent during 1960.

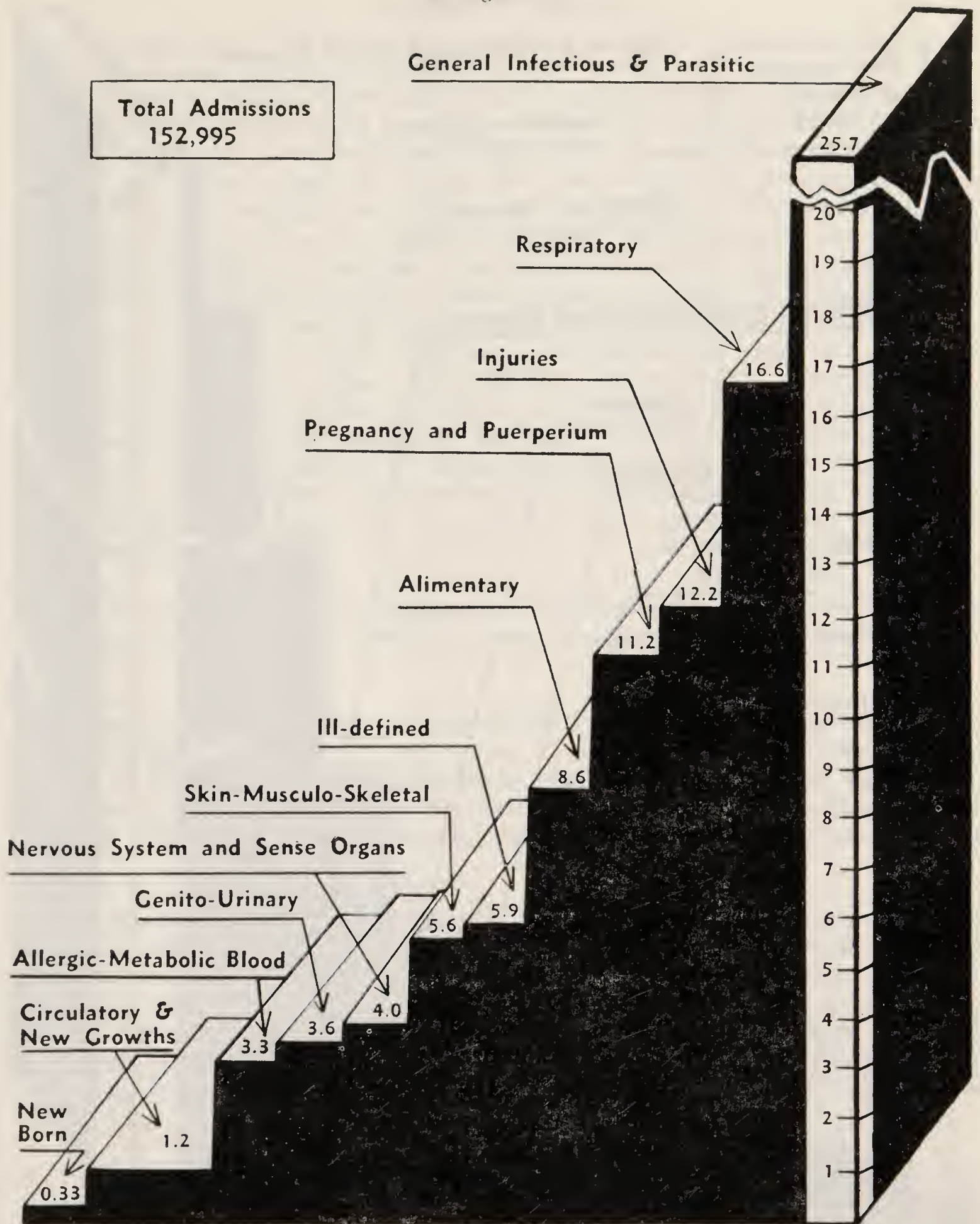
<i>Disease</i>	<i>No. of Admissions</i>	<i>No. of Deaths</i>	<i>Case Mortality Rate</i>
Broncho-pneumonia	7,507	1,411	19
Gastro enteritis between 4 weeks and 2 years	5,024	746	15
Respiratory tuberculosis	4,549	470	10
Kwashiorkor	1,415	409	28
Tetanus	717	303	42
Malaria	10,378	303	3
Lobar pneumonia	4,515	296	7
Meningitis	884	230	26
Whooping cough	2,574	223	9

A list of diseases which caused more than 200 hospital deaths.

A special mention should be made of trauma; the accompanying table reveals the importance of trauma and diseases arising therefrom in the total picture of illness and diseases within the country. It is a particularly important group as it is so often avoidable. For example, at the Coast coconut climbers fall through not using safety harnesses, in another district supracondylar fractures are noticed in children during the mango seasons; burns and scalds occur amongst children from unprotected fires and boiling liquids. Tetanus again should be entirely preventable by the use of tetanus toxoid. This group of diseases represents a field in which health education measures are receiving increasing emphasis.

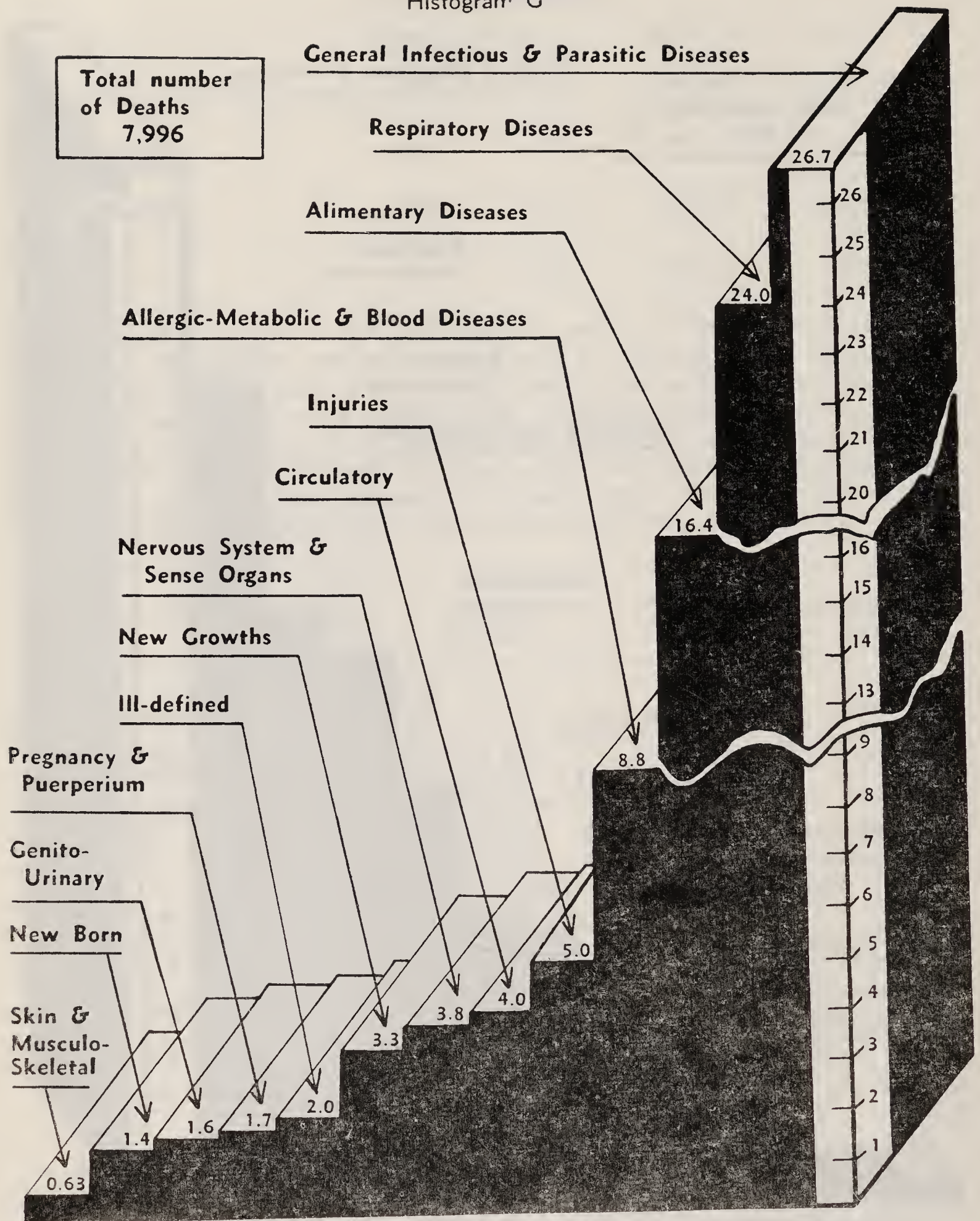
On the therapeutic side, a £55,000 project for a Rehabilitation Unit is at present under construction from C.D. & W. funds; it is hoped that this unit will be opened in 1962 and that a doctor with special training in all aspects of rehabilitation will be in charge.

Histogram F



A histogram showing by disease groups the principal causes of morbidity among in-patients at Government hospitals

Histogram G



A histogram showing by disease groups the principal causes of mortality among in-patients at Government hospitals

Laboratory Services

MEDICAL RESEARCH LABORATORY, NAIROBI

A large proportion of the work of this laboratory is still concerned with the routine clinical examinations for King George VI Hospital and its ancillary services in Nairobi District. A new wing of the laboratory over the Wellcome Library was brought into use during 1960 and it has been devoted to routine haematology, bacteriology and parasitology. It also affords the accommodation for the reception of out-patients and all specimens. A Receptionist was appointed to this clinical laboratory and she is responsible for all the routine records. The Medical Research Laboratory has accommodated a number of visiting research workers. The World Health Organization and Medical Research Council Tuberculosis Teams have continued their work throughout the year. Drs. Foy and Kondi of the Wellcome Trust, continued their haematological research projects. Members of the Bilharzia Research Unit of the Medical Research Council were also accommodated in the laboratory and bilharzial chemotherapeutic trials have been conducted in collaboration with the King George VI Hospital. Support has been given to the various chemotherapeutic teams working at King George VI Hospital on cancer problems, in particular those associated with the Sloan Kettering Institute.

It was decided, with the assistance of the British Empire Cancer Campaign and Makerere College, to establish a cancer registry at the Medical Research Laboratory.

Apart from housing and offering ancillary services to the research workers detailed above, support has been given to research projects formulated by officers of the Kenya Medical Department working at King George VI Hospital and other centres. Consideration has been given to the provision of a separate research committee to tailor existing laboratory facilities to future research projects.

To enable this division to plan staff requirements for the increase of current work and the possibility of expansion both in routine clinical pathology and the public health laboratory services, it was decided to discontinue the training of laboratory assistants and concentrate for a few years on building up the microscopist cadre. It was considered that the existing number of laboratory assistants was sufficient to provide candidates for the training and localization of technologists and also the provision of senior personnel in provincial and district laboratories.

The Specialist Pathologist carried out surveys in hospitals in Nairobi and advised on a number of problems concerned with infections in these hospitals.

The demands for public health laboratory services have increased greatly over the last few years and serious consideration was given to expanding the Public Health Division within the laboratory services to meet these requests.

The organization of a Blood Transfusion Centre for Nairobi was completed and this is now accommodated at the Medical Research Laboratory. An executive officer, dealing with the donor organization, has been appointed. It is anticipated that this transfusion centre will receive blood from all donor sessions in Nairobi. It will group all such blood and carry out any other necessary tests, and then issue it to the various blood banks in Nairobi. It is hoped that its activities will be extended to all other centres in Kenya carrying out blood transfusion and that interesting serological data will arise from this routine work.

PROVINCIAL AND DISTRICT LABORATORIES

The work in these laboratories has increased considerably over the last few years and all the laboratory assistants qualifying during the year from the Medical Training Centre were posted to provincial or district hospitals in an attempt to build up the facilities which must be available to match the development of clinical standards in these hospitals.

Radiological Services

This was more a year of consolidation than expansion. X-ray facilities were however extended to Wesu where the equipment was supplied by UNICEF, Tambach where the African District Council provided an X-ray set and radiographic assistant and Kilifi where a set was very kindly donated. By the end of the year a new department at Kitui was nearing completion.

The Department at King George VI Hospital continued to expand its work. The medical officer in charge was promoted to the rank of Specialist. In this capacity he has not only been responsible for the department at King George VI Hospital, but has organized the countrywide service. There are now only a few hospitals where patients cannot either be X-rayed or reach an X-ray unit on a day trip. The mobile unit has proved of great value around Nairobi. It has made regular visits to Machakos, Kiambu, Thika and Fort Hall hospitals providing an essential adjunct to the tuberculosis service.

ADMINISTRATION

Development

The year saw the end of the 1957-60 development programme and the beginning of the 1960-63 plan. However, due to the extreme shortage of capital the Treasury had to rule that works belonging to the 1957-60 plan and not completed on 30th June, 1960, would be financed from funds for the 1960-63 programme. The works carried forward led to many delays in getting the new plan under way. However, during the year a considerable building programme was completed or in hand. At Nandi Hills, where local tea interests made a generous contribution of £12,000, a 30-bed hospital costing £30,000 was half completed by the end of the year.

An extension of the Mary Griffin Nurses Home in Nairobi was almost complete at the end of the year. Mr. M. P. Shah made a gift of £12,000 towards the total cost of £28,000. The new wing provides 68 bedroom/study units with communal sanitary services, laundry and a housekeeper's flat, and is intended primarily for K.R.N. students and staff nurses.

At Port Reitz, rebuilding of the old ex-R.A.F. tuberculosis and isolation hospital was completed at a cost of £38,000. The new buildings consist of six wards with 96 beds, administration and clinic block, and a new kitchen and laundry with steam cooking and water heating. The relative cheapness compared to Nandi Hills was partly due to some of the services being already existent. However, credit must be given to the use of prefabricated concrete construction and a very simple open design which is proving excellent for the coastal climate.

There was considerable expansion at the Medical Research Laboratory in Nairobi. The extension to the Wellcome Research Library which was started in 1959 was completed, making an excellent library with ample book space for the foreseeable future. On the first floor above the library a new diagnostic laboratory has relieved pressure on the previously crowded laboratory space. An efficient new animal house was completed, with space for the variety of animals and poultry required. A new laboratory for the Government Chemist, built at a

cost of £28,000 was nearing completion. This will give the Government Chemist excellent facilities and will release further much needed accommodation for the Medical Research Laboratory.

At King George VI Hospital the new Sterile Preparation Unit was completed. Although situated at King George VI Hospital this unit produces sterile solutions for the whole Colony. In accordance with a request from the General Nursing Council the children's wards are being cubicled and the first two had been completed by the end of the year. The design and finish of these wards with their bright colouring has received very favourable comment from visitors.

The Better Living Institute constructed at a cost of £20,000 with funds provided by the Nuffield Trust was built at Kitui. At the end of the year it was ready to take the first batch of students.

An operating theatre suite on the same plan as that used in 1959 at Machakos is being built at Nyeri, and at the end of the year it was nearing completion. Less lavish operating theatres were built to replace inadequate buildings at Kapsabet and Kerugoya where a new out-patient department is also under construction.

At Galole, district centre of Tana River District, a new hospital of 44 beds was built by utilizing two Arcon structures which had formed part of the existing temporary hospital. These structures were moved on to a suitable site where there was electricity and a sewer available and completed in permanent materials to form the backbone of the new hospital. The cost of the hospital was only £10,000.

At Garissa and Marsabit new out-patient departments have been built, and at Moyale a new ward is under construction. At Wesu an X-ray department was completed and one has been begun at Kitui. Electricity has been supplied to Msambweni and the arrival of mains electricity at Itesio Leprosarium has released a generator which is being moved to Bungoma. Water-borne sanitation was installed at Taveta and is also being installed at Kiambu and Kerugoya.

In Nairobi, six family flats for senior staff completed the building programme for the Medical Training Centre, in addition, 12 African staff flats were constructed. In Mombasa, a block of six flats for nursing sisters and six family flats for African staff at the Coast Province General Hospital completed the housing programme in the original scheme. Staff housing was also built at Machakos, Kitale, Kangundo, Kapenguria and Kitui.

The policy of making grants on a £ for £ basis to non-government hospitals which are run on a non-profit making basis was continued. Grants totalling £3,750 were made from the 1960/61 allocation to Catholic mission hospitals at Kilima Mbogo and Ortum. A grant of £15,000 was made towards construction at Nairobi South. The European Hospitals in Nairobi and Mombasa received respectively £7,000 towards a new laundry and £5,000 for construction of a new ward.

Finance

The gross recurrent expenditure of the Medical Department during the period 1st July, 1959 to 30th June, 1960, totalled £2,211,444. The actual form of accounting was changed slightly from the previous financial year, the expenditure on the Medical Training Centre being divided among the appropriate votes. 'Grants to Hospital Fund Authorities' was shown separately this year. Revenue for the year amounted to £505,463.

<i>Year Ending</i> 30th June, 1959	EXPENDITURE	<i>Year Ending</i> 30th June, 1960
£		£
1,158,909	Personal Emoluments	1,276,383
24,908	House Allowances	30,775
79,406	Travelling Expenses	78,814
361,535	Medical and Surgical Stores and Equipment ..	305,051
150,361	Maintenance and Upkeep of Medical Establish- ments	168,548
74,767	Grants-in-Aid	90,570
—	Grants to Hospital Fund Authorities	90,044
28,898	Contribution to Development Fund—Medical Training Centre	16,000
7,328	X-ray Equipment	4,927
140,280	Miscellaneous Other Charges	147,822
1,332	Compensation and Ex gratia Payments	1,347
143	Losses of Cash	1,163
80,281	Medical Training Centre	—
£2,108,148		£2,211,444

The net increased expenditure over the financial period 1958-1959 amounted to £54,031.

<i>Year Ending</i> 30th June, 1959	REVENUE	<i>Year Ending</i> 30th June, 1960
£		£
CAPITATION FEES—		
12,843	East African High Commission	12,798
55,577	East African Railways and Harbours	52,637
14,514	E.A. Posts and Telecommunications Administra- tion	13,229
1,345	East African Land Forces Organization	1,485
296	Miscellaneous	658
FEES FOR SERVICES RENDERED—		
117,245	Hospitals and Dispensaries	148,300
5,470	X-rays	4,580
360	Massage and Physiotherapy	157
16,584	Laboratory	18,484
SALES OF STORES AND OTHER MATERIALS—		
89,893	Stores and Equipment	94,946
2,623	Artificial Limbs	3,143
760	Health Education Materials	689
273	Occupational Therapy Products	205
—	Oral Polio Vaccine	20,437
REIMBURSEMENTS—		
28,898	International Co-operation Administration ..	16,000
5,619	Learners for Boarding Fees	4,413
763	Rations	536
15,045	Public Health Authorities—Staff Seconded ..	26,171
80,213	Public Health Authorities—Health Services ..	76,399
—	Other Ministries for Staff Seconded	4,004
7,151	Miscellaneous	6,190
£455,472		£505,463

Recruitment

Medical Officer recruitment during the year was satisfactory numerically but owing to illness, resignations and retirements amongst the more senior and experienced doctors in the service there has been a constant dilution with young inexperienced Kenya-born doctors. Six expatriate medical officers were recruited, all on contract except for one on permanent and pensionable terms. Pathologist recruitment was satisfactory.

It has proved impossible to obtain sister tutors, but health visitor recruitment has greatly improved and all vacancies in this latter category of officer were filled at the end of the year. Nursing sister recruitment has been poor and services have only been maintained by the employment of married women on temporary terms.

The recruitment of health inspectors has been very bad. Only two expatriate officers were recruited and one locally-born officer returned from the United Kingdom having obtained his full qualifications. There were five health inspector vacancies at the end of the year.

The radiological and laboratory services continue to suffer from staff shortages, and it has proved impossible to obtain a pharmacist to fill a vacancy which existed throughout the year.

The major difficulty in recruitment of medical auxiliaries appeared to be that the terms of service offered by Government were not sufficiently attractive rather than that trained personnel were not available.

Training

There was no recruitment of students for training as hospital assistants during 1960, but consideration was given to the best of the first output of Enrolled Assistant Nurses—in 1963—being given a further year's training to enhanced hospital assistant status; the training of the old-type hospital assistants and of dressers will cease altogether as soon as all the existing students have qualified. Thereafter, there will only be nurses and one grade of assistant nurse.

Limitations were put on the number of hospitals carrying out training for Enrolled Assistant Nurses—these now number nine of the major hospitals throughout the Colony. Furthermore, hospitals accepted for pre-training were also limited in number.

Training of other categories proceeded much as usual. There was no difficulty in recruiting female students for Kenya Registered Nurse Training and no difficulty in keeping them once recruited. But there was some difficulty in the other faculties. For the second year in succession it was impossible to recruit students with Cambridge School Certificate for Assistant Health Inspector training. For the other faculties recruiting at this educational level, either the expected number of students was not recruited or it was necessary to take students of C.S.C. level who had failed the examination. Competition by commercial firms, who can offer higher salaries, was undoubtedly the reason for the difficulty in recruitment of C.S.C. students, and, together with the Students' Airlift, was responsible for the loss of students who had started courses and who subsequently discontinued training. There is no doubt but that a small proportion of Cambridge School Certificate students commence training at the Medical Training Centre and regard their training here as a means of obtaining free board and lodging, with

pocket money, while they look around for more remunerative commercial employment. None of these difficulties were experienced with recruitment at K.A.P.E. level: we are unable to offer training to all who apply. It is obvious that as the Cambridge School Certificate becomes more common in the population, the difficulty presently experienced in recruitment and retention of students will progressively diminish.

Two Anaesthetic and Dental Courses were commenced during the year, in March and September, and two short courses for Lay Lecturers were also held for the St. John Ambulance Society.

Sports, social activity and the various students' societies continued as in previous years.

The following table illustrates the work of the Medical Training Centre and the Training Hospitals:—

Category	Qualified in 1960	In Training 31-12-60
Assistant Health Inspectors	7	(New intake, Jan., 1961 is 15)
Health Assistants	46	68
Assistant Nurses Grade II—		
M.T.C.	11	M.T.C. 108 Other Centres 206
Other Centres	30	
(Non-Government 49)		
Enrolled Assistant Nurses (course commenced 1960).		
Enrolled Assistant Nurses Pre-Trainees ..		M.T.C. 31 Other Centres 285
Hospital Assistants M.T.C. (Non-Government 12).	31	M.T.C. 90 (Non-Govt. 43)
Assistant Radiographers	1	11
Dark Room Assistants	4	7
Laboratory Assistants	5	20
Kenya Registered Nurses	8	40
Storekeepers	—	4
Dispensers	8	16
Physiotherapy Assistants	2	6
Assistant Midwives (Non-Government 47)	14	20 (Non-Govt. 134)

Visitors

The following visitors from overseas were received and shown aspects of the work of the Ministry:—

DR. J. BURCHENAL, Sloan Kettering Institute, New York.

DR. E. H. HINMAN, Head of Technical Resources Division of Office of Public Health, I.C.A., Washington.

DR. O. M. DERRYBERRY, Tennessee Valley Authority, Chattanooga, Tennessee, U.S.A.

MISS JOAN WHITTINGTON, British Red Cross H.Q., London.

MR. MAURICE PATE, UNICEF, New York.

DR. ZISMAN, South-west Foundation for Research and Education, San Antonio, Texas, U.S.A.

- PROFESSOR DOUGLAS ROBB, SIR ARTHUR SIMS, Commonwealth Travelling Professor in Surgery, New Zealand.
- DR. JOHN SHILLINGFORD, Post Graduate Medical School, London, W.12.
- PROFESSOR R. J. KELLAR, Edinburgh University.
- DR. JOSEF BURY, Ministry of Social Welfare, Jerusalem, Israel.
- PROFESSOR J. H. S. GEAR, South African Institute for Medical Research.
- DR. J. S. KERSHAW, Medical Officer of Health, Colchester W.H.O. Consultant.
- DR. C. A. EGGER, UNICEF, Paris.
- MR. P. E. HANSON, UNICEF, Kampala.
- SIR MILES CLIFFORD, The Leverhulme Trust.
- DR. L. K. DIAMOND, Children's Hospital, Boston, Mass. U.S.A.
- MR. EPHRAIM BORROU, Ministry of Health, Addis Ababa.
- DR. J. J. HANLON, Director of Public Health, Philadelphia, U.S.A.
- MR. DUNCAN GUTHRIE, Polio Research Fund, London.
- DR. A. ALOKIJIA, Ministry of Health, Western Nigeria.
- DR. V. CHALUMEAU, Ministry of Agriculture, Ivory Coast.
- M. GUILLAUME, F.A.O., Consultant, Rome.
- MR. F. LOWENSTEIN, W.H.O., Geneva.
- MR. L. ORIHUELA, W.H.O., Brazzaville.
- REAR-ADMIRAL B. W. HOGAN, Surgeon General, U.S. Navy, Washington D.C., U.S.A.
- PROFESSOR IAN AIRD, Post Graduate Medical School, London.
- SIR HAROLD HIMSWORTH, Medical Research Council, London.
- MR. L. FARRER-BROWN, Nuffield Foundation, London.

Publications

ARTICLES PUBLISHED BY THE STAFF OF THE MINISTRY OF HEALTH, 1960

- BEECHER, J. L.—An analysis of in-patient statistics in Kiambu Hospital from 1939 to 1958. *E. Afr. Med. J.*, Vol. 37, August, 1960, p. 559.
- CACHIA, C.—A mobile health unit among the Masai. *E. Afr. Med. J.*, Vol. 37, March, 1960, p. 224.
- CANDLER, P. L.—Stress incontinence of urine following successful repair of vaginal urinary fistulae. *E. Afr. Med. J.*, Vol. 37, September, 1960, p. 645.
- CLIFFORD, P.—Malignant disease of the nose and nasal sinuses in East Africa. *Brit. J. Surg.*, Vol. 48, July, 1960, p. 15.
- Acute Traumatic head injuries. *E. Afr. Med. J.*, Vol. 37, September, 1960, p. 606.
- FENDALL, N. R. E.—Poliomyelitis in Kenya: a review of the present situation. *E. Afr. Med. J.*, Vol. 37, February, 1960, p. 89.
- The way ahead: presidential address to the third Annual General Meeting of the East African Branch of the Society of Medical Officers of Health, on 2nd July, 1959. *E. Afr. Med. J.*, Vol. 37, March, 1960, p. 131.
- Health centres in Kenya. *E. Afr. Med. J.*, Vol. 37, March, 1960, p. 171.
- GRATTAN, E.—Chest injuries. *E. Afr. Med. J.*, Vol. 37, September, 1960, p. 616.
- GROUND, J. G.—Single-dose treatment of malaria with amodiaquin, chloroquine and mepacrine in a semi-immune population. *E. Afr. Med. J.*, Vol. 37, July, 1960, p. 496.

- HAUPT, D. R.—Urban health centres in Kenya. *E. Afr. Med. J.*, Vol. 37, March, 1960, p. 217.
- HAYNES, W. S.—Kenya for health? *Chest and Heart Bulletin*, Vol. 23, February, 1960, p. 6.
- HEISCH, R. B. AND HARVEY, A. E. C.—Is *Ornithodoros Savignyi* (Audouin) a vector of relapsing fever in Africa? *Ann. trop. Med. Parasit.*, Vol. 54, June, 1960, p. 205.
- HEISCH R. B.—Eradication of Malaria. *Brit. Med. J.*, Vol. 1, 4th June, 1960, p. 1736.
- The isolation of *Rickettsia Burneti* from *Lemniscomys* sp. in Kenya. *E. Afr. Med. J.*, Vol. 37, February, 1960, p. 104.
- HEISCH, R. B., SPARROW, H., AND HARVEY, A. E.. C.—The behaviour of *Spirochaeta Recurrentis* Lebert in lice. *Bull. Soc. Path Exot.*, Vol. 53, March to April, 1960, p. 140.
- KEATING, S. R.—The treatment of fracture dislocations of the spine with cord involvement. *E. Afr. Med. J.*, Vol. 37, September, 1960, p. 619.
- The treatment of sarcoma by isolation perfusion techniques. *E. Afr. Med. J.*, Vol. 37, September, 1960, p. 650.
- KILLEN, O. H.—Nutrition and farm planning in Kenya. *E. Afr. Med. J.*, Vol. 37, March, 1960, p. 146.
- Rural health centres: Kiambu. *E. Afr. Med. J.*, Vol. 37, March, 1960, p. 204.
- KIRKALDY-WILLIS, W. H.—Pattern in the treatment of trauma. *E. Afr. Med. J.*, Vol. 37, Sept., 1960, p. 621.
- MACDOUGALL, L. G.—Amoebiasis and its complications in African infants, *E. Afr. Med. J.*, Vol. 37, April, 1960, p. 279.
- The haematological picture in Kwashiorkor and marasmus. *Trans. R. Soc. trop. Med. Hyg.*, Vol. 54, January, 1960, p. 37.
- Serum vitamin B₁₂ concentrations in Kwashiorkor and marasmus. *J. Pediatrics*, Vol. 57, October, 1960, p. 589.
- MANSON-BAHR, P. E. C.—The physical background of mental disorder in Africans. *E. Afr. Med. J.*, Vol. 37, June, 1960, p. 477.
- MINTER, D. M. AND LEWIS, D. J.—Internal structural changes in some African Phlebotominae. *Ann. trop. Med. Parasit.*, Vol. 54, October, 1960, p. 351.
- NELSON, G. S.—Schistosome infections as zoonoses in Africa. *Trans. R. Soc. trop. Med. Hyg.*, Vol. 54, July, 1960, p. 301.
- RIGBY, E. P.—The increasing importance of tetanus in Kenya. *E. Afr. Med. J.*, Vol. 37, January, 1960, p. 1.
- ROBERTS, J. M. D.—Rural health centre projects in North Nyanza. *E. Afr. Med. J.*, Vol. 37, March, 1960, p. 186.
- ROTHER, H.—An easy approach to lower abdominal surgery. *E. Afr. Med. J.*, Vol. 37, July, 1960, p. 508.
- SEYMOUR-PRICE, M., CACHIA, C., AND FENDALL, N. R. E.—Smallpox in Kenya. *E. Afr. Med. J.*, Vol. 37, October, 1960, p. 670.

- TAYLOR, A. H.—Sewage lagoons for low-cost disposal. *E. Afr. Med. J.*, Vol. 37, October, 1960, p. 676.
- TURNER, P. P. AND MANSON-BAHR, P. E. C.—Endomyocardial fibrosis in Kenya and Tanganyika Africans. *Brit. Heart J.*, Vol. 22, June, 1960, p. 305.
- VINK, J. DE M.—A health service for the plantation industry. *E. Afr. Med. J.*, Vol. 37, March, 1960, p. 158.
- WALKER, A. J., HADDOW, A. J., AND DAVIES, C. W.—O'nyong-nyong fever: an epidemic virus disease in East Africa. *Trans. R. Soc. trop. Med. Hyg.*, Vol. 54, November, 1960, p. 517.
- WOLFENDEN, G.—Mobile health units in West Suk. *E. Afr. Med. J.*, Vol. 37, March, 1960, p. 232.

NOTIFIABLE INFECTIOUS DISEASES BY DISTRICT 1960

District	Acute Polio-myelitis	Anthrax	Brucellosis	C.S.M.	Diphtheria	Encephalitis (P)	Inf. Hepatitis	Kala-azar	Leprosy	Plague (H)	Rabies	Relapsing Fever	Salmonellosis	Smallpox	Trypanosomiasis	Typhoid Fever	Typhus	T.B. (P)	T.B. Other Forms	Dysentery	Influenza	Pneumonia
Nairobi City	88	4	—	1	1	7	43	—	1	—	—	—	13	17	—	26	1	442	32	101	—	—
Nairobi County	61	—	2	23	—	—	14	—	4	—	—	—	4	2	—	38	—	236	—	63	—	24
Nyeri	23	—	7	16	—	—	10	—	—	—	—	—	—	2	—	139	—	538	33	42	1	119
Nanyuki	3	—	1	—	—	—	3	—	—	—	—	—	—	—	—	12	—	9	—	—	—	—
Kiambu	97	22	1	24	3	—	1	—	7	—	—	—	—	1	—	69	—	507	79	6	—	87
Fort Hall	78	—	1	16	1	—	3	—	5	2	—	—	—	—	—	62	—	325	102	1,746	151	932
Embu	41	13	2	14	3	—	4	3	5	—	—	—	—	1	—	178	—	610	97	21	—	146
Meru	112	135	20	6	—	2	11	297	6	—	—	1	—	19	—	117	—	428	101	9	—	126
Central Prov. Total	416	170	33	99	7	2	46	300	27	2	—	1	4	25	—	615	—	2,653	412	1,887	152	1,427
Nakuru Municipality	19	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27	2	91	—	—
Nakuru County	45	1	1	46	—	7	2	—	9	—	—	—	—	13	—	18	—	107	27	71	—	—
Eldoret (Town)	4	—	—	3	—	—	5	1	—	—	—	—	—	—	—	2	—	10	—	152	255	70
Eldoret (District)	6	—	—	10	—	—	4	1	—	—	—	—	—	—	—	2	—	29	6	114	99	101
Kitale (Town)	—	—	—	4	—	—	—	—	—	—	—	—	—	—	—	—	—	5	4	7	—	26
Kitale (District)	16	3	—	31	—	—	—	1	—	—	—	—	—	5	—	8	—	25	7	12	—	124
Naivasha	16	—	—	4	—	—	—	—	1	—	—	—	—	—	—	3	—	46	3	7	—	—
Thomson's Falls	23	—	1	—	—	—	—	—	—	—	—	—	—	—	—	2	—	24	8	14	—	—
West Suk	1	1	—	18	—	4	—	71	—	—	—	—	—	—	—	—	—	42	3	4	—	49
Nandi	12	2	1	20	2	2	7	—	5	—	—	—	—	—	—	27	—	79	20	113	68	423
Kabarnet	3	21	17	20	—	—	—	50	—	—	—	—	—	4	—	—	—	41	6	56	14	150
Tambach	1	—	—	6	—	—	—	30	—	—	—	—	—	—	—	—	—	61	14	30	4	173
Samburu	—	264	8	—	—	—	—	—	—	—	—	—	—	—	—	—	3	12	3	57	85	328
Rift Valley Prov. Total	146	292	28	162	2	13	18	154	16	—	—	—	—	22	—	64	3	508	103	728	525	1,444
Machakos	45	80	—	5	—	5	8	—	11	—	—	—	—	4	—	30	—	232	52	72	4	171
Kitui	26	—	16	3	1	—	1	581	49	—	—	—	—	4	—	14	—	276	38	150	4	602
Narok	7	14	15	12	—	—	4	—	—	—	—	—	—	6	—	4	—	32	16	126	21	180
Kajiado	10	622	2	6	10	—	1	—	2	—	—	—	—	—	—	9	—	57	53	304	12	1,532
Southern Prov. Total	88	716	33	26	11	5	14	581	62	—	—	—	—	14	—	57	—	597	159	652	41	2,485

NOTIFIABLE INFECTIOUS DISEASES BY DISTRICT 1960—(Contd.)

District	Acute Polio-myelitis	Anthrax	Brucellosis	C.S.M.	Diphtheria	Encephalitis (P)	Inf. Hepatitis	Kala-azar	Leprosy	Plague (H)	Rabies	Relapsing Fever	Salmonellosis	Smallpox	Trypanosomiasis	Typhoid Fever	Typhus	T.B. (P)	T.B. Other Forms	Dysentery	Influenza	Pneumonia
Kisumu Municipality	3	—	—	—	—	—	—	—	—	—	—	—	—	2	—	3	—	4	2	—	—	—
Central Nyanza ..	35	13	—	1	—	—	4	—	724	—	—	—	—	4	52	55	—	107	4	5	3	10
Elgon Nyanza ..	29	1	—	47	—	—	3	—	161	—	—	1	—	—	—	39	—	94	48	12	—	58
North Nyanza ..	32	—	—	19	—	—	2	—	199	—	—	—	—	9	—	34	—	75	27	2	1	94
South Nyanza ..	39	—	—	33	2	—	—	—	96	—	—	—	—	—	6	42	—	203	1	2	—	55
Kericho District ..	77	25	—	166	3	1	4	—	7	—	—	1	—	—	1	20	1	176	16	135	87	311
Nyanza Prov. Total	215	39	—	266	5	1	13	—	1,187	—	—	2	—	15	59	193	1	659	98	156	91	528
Mombasa Municipality ..	17	—	—	1	7	1	30	5	3	—	—	—	—	2	—	20	—	420	56	935	539	807
Mombasa District ..	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12	—	—	—
Kwale (Msambweni)	12	—	—	—	—	—	3	—	104	—	—	—	—	—	—	3	—	83	15	14	—	240
Taita-Taveta (Wesu)	3	7	3	—	—	—	—	—	—	—	—	—	—	14	—	5	—	50	2	578	372	417
Lamu ..	—	—	1	1	—	—	1	—	4	—	—	—	—	37	—	2	—	17	2	37	9	76
Kilifi ..	11	2	—	4	3	—	37	—	65	—	—	—	—	—	—	2	—	123	—	35	783	298
Tana River (Hola and Kipini) ..	—	—	2	1	—	—	2	1	1	—	—	—	—	1	—	—	—	37	—	96	—	178
Coast Prov. Total ..	44	9	6	7	10	1	73	6	177	—	—	—	—	54	—	32	—	730	85	1,695	1,703	2,016
Wajir ..	6	43	20	1	1	—	14	1	—	—	—	—	—	4	—	1	—	111	6	225	622	328
Turkana ..	—	9	1	—	—	—	5	9	—	—	—	—	—	—	—	—	—	4	2	56	71	58
Northern Prov. Total	6	52	21	1	1	—	19	10	—	—	—	—	—	4	—	1	—	115	8	281	693	386
COLONY TOTAL ..	1,003	1,282	121	562	37	29	226	1,051	1,470	2	—	3	17	151	59	988	5	5,704	897	5,500	3,205	8,286

NOTIFICATIONS OF MAIN INFECTIOUS DISEASES 1954-60
Colony Figures

Diseases	1954	1955	1956	1957	1958	1959	1960
Cholera	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Plague (Rodent)	Nil	Nil	Nil	4	8	5	1
Plague (Human)	1	27	7	15	19	12	2
Smallpox	Nil	61	374	806	735	316	151
Typhus Fever (Exanthematous)	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Typhus Fever (Endemic)	24	51	55	27	10	8	5
Yellow Fever	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Relapsing Fever	116	27	40	30	13	7	Nil
Typhoid Fever	2,001	1,874	1,902	1,671	1,239	1,115	988
Cerebrospinal Meningitis	204	661	1,369	760	661	458	562
Poliomyelitis	538	240	84	614	307	271	1,003
Trypanosomiasis	151	92	32	61	77	38	59
Kala-azar	860	241	416	552	426	576	1,051
Leprosy	Not available	Not available	Not available	Not available	3,066	2,294	1,470
Rabies	Nil	Nil	Nil	Nil	7	6	Nil
Tuberculosis (Pulmonary)	Not available	Not available	4,947	5,902	6,952	6,002	5,704
Dysentery	2,426	1,168	3,818	2,915	2,216	3,147	5,500
Influenza... ..	671	439	1,295	14,513	2,452	3,708	3,205
Pneumonia	6,168	4,619	9,926	6,471	4,828	6,623	8,826

1960—RETURN OF ACCIDENTS (COMBINED) IN-AND OUT-PATIENTS

Code	List	ACCIDENTS	EUROPEAN		ASIAN		AFRICAN	
			Cases	Deaths	Cases	Deaths	Cases	Deaths
E810-E835 E800-E802 E840-E866 E870-E895 E900-E904 E912 E916 E917, E918	AE.138 AE.139 AE.140 AE.141 AE.142 AE.143 AE.144	Motor vehicles accidents Other transport accidents Accidental poisoning Accidental falls Accident caused by machinery Accident caused by fire and explosion of combustible material Accident caused by hot substance, corrosive liquid, steam and radiation Accident caused by firearm Accidental drowning and submersion Foreign body entering eye and adnexa Foreign body entering other orifice Accidents caused by bites and stings of venomous animals and insects Other accidents caused by animals All other accidental causes Homicide and injury purposely inflicted by other persons (not in war) Injury resulting from operations of war	39 4 8 191 6 11 23 — — 47 5 28 17 387 30 —	— — — — — — — — — — — — — — — — —	179 50 10 109 66 44 49 — — 36 93 16 2 820 79 —	9 — — 3 — 3 — — — — — — — — — — —	3,819 4,217 583 6,914 1,625 3,426 3,964 63 8 1,592 2,185 2,503 1,528 40,760 5,504 25	144 20 13 21 5 79 26 1 2 — 4 12 5 46 24 4
		TOTAL	796	Nil	1,553	15	78,716	406

RETURN OF DISEASES—OUT-PATIENTS, 1960

Code	DISEASES	EUROPEAN			ASIAN			AFRICAN		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
	INFECTIOUS AND PARASITIC DISEASES									
001-008	Respiratory Tuberculosis	3	3	6	250	130	380	5,045	4,188	9,233
010-019	Other Tuberculosis	2	3	5	4	2	6	856	732	1,588
020-029	Syphilis	—	2	2	2	—	2	2,228	1,318	3,546
030-035	Gonorrhoea	4	—	4	17	1	18	12,493	5,182	17,675
036-039	Other Venereal Diseases	1	1	2	3	3	6	1,554	1,758	3,312
045	Bacillary Dysentery	63	62	125	68	88	156	5,529	3,171	8,700
046	Amoebic Dysentery	22	6	28	17	4	21	1,505	1,060	2,565
055	Diphtheria	—	—	—	2	2	4	11	18	29
056	Whooping Cough	23	27	50	44	35	79	6,114	6,451	12,565
057, 340	Meningitis (excluding Tuberculosis)	—	—	—	—	—	—	224	169	393
058	Plague	—	1	1	—	—	—	1	1	2
060	Leprosy	1	—	1	—	—	—	506	242	748
061	Tetanus	—	—	—	—	—	—	310	366	676
062	Anthrax	—	—	—	—	—	—	256	174	430
071	Relapsing Fever	—	—	—	—	—	—	41	23	64
073	Yaws	—	—	—	—	—	—	730	460	1,190
080	Acute Poliomyelitis	9	6	15	22	4	26	442	228	670
084	Variola Major	—	—	—	—	—	—	2	3	5
084	Variola Minor	—	—	—	—	—	—	115	126	241
085	Measles	87	177	264	57	40	97	6,615	5,639	12,254
086	Rubella	3	—	3	—	—	—	—	1	1
087	Chicken-pox	60	110	170	61	14	75	1,988	1,706	3,694
088	Herpes Zoster	7	3	10	15	12	27	519	335	854
089	Mumps	22	19	41	50	27	77	996	713	1,709
092	Infectious Hepatitis	25	23	48	3	1	4	312	195	507
095	Trachoma	7	4	11	60	15	75	2,715	1,647	4,362
110	B.T. Malaria	4	—	4	4	1	5	21	14	35
111	Qt. Malaria	1	—	1	3	—	3	126	107	233
112	S.T. Malaria	84	45	129	80	27	107	14,632	14,633	29,265
115	Blackwater	—	—	—	—	—	—	—	—	—
121	Trypanosomiasis	—	—	—	—	—	—	64	2	66
120.0	Schistosomiasis (Haematobium)	1	1	2	1	1	2	2,651	1,634	4,285
123.1	Schistosomiasis (Mansoni)	3	3	6	3	—	3	932	440	1,372
126	Tapeworm	16	5	21	—	—	—	11,381	6,625	18,006
127	Onchocerciasis	2	6	8	—	—	—	6	15	21
129	Ankylostomiasis	1	1	2	1	1	2	3,182	1,955	5,137
130.0	Ascariasis	—	2	2	26	10	36	6,539	5,050	11,589
131	Tinea	53	33	86	48	12	60	1,293	585	1,878

RETURN OF DISEASES—OUT-PATIENTS, 1960—(Contd.)

Code	DISEASES	EUROPEAN			ASIAN			AFRICAN		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
135 N.O.S. 036-138	INFECTIOUS AND PARASITIC DISEASES—(Contd.)									
	Scabies	—	—	—	10	9	19	6,430	5,464	11,894
	Other Infective and Parasitic Diseases	38	40	78	237	35	272	7,345	4,191	11,536
140-205 210-239	NEW GROWTHS									
	Malignant Neoplasms	8	6	14	2	—	2	195	171	366
	Benign and other Neoplasms	47	49	96	36	16	52	620	694	1,314
241 286.6 290-293 N.O.S. 240-299	ALLERGIC METABOLIC AND BLOOD DISEASES									
	Asthma	37	46	83	134	77	211	2,308	1,181	3,489
	Kwashiorkor	—	1	1	3	1	4	2,246	2,157	4,403
	Anaemia	17	84	101	55	103	158	1,642	2,055	3,697
	Other Allergic, Endocrine, Metabolic and Nutritional Diseases	135	267	402	152	92	244	4,830	3,071	7,901
300-326 353 N.O.S. 330-369	DISEASES OF NERVOUS SYSTEM AND SENSE ORGANS									
	Mental Disorder	122	72	194	55	39	94	659	388	1,047
	Epilepsy	4	4	8	4	—	4	566	326	892
	Other Diseases of the Nervous System and Sense Organs ..	167	206	373	194	90	284	2,208	1,271	3,479
	DISEASES OF EYE AND EAR									
370 373 389 N.O.S. 371-388 390-398	Conjunctivitis and Ophthalmia	217	259	476	380	179	559	22,460	14,275	36,735
	Stye	39	36	75	133	46	179	1,848	810	2,658
	Blindness	9	7	16	2	—	2	940	474	1,414
	Other Diseases of Eye (not Trachoma)	101	100	201	232	91	323	4,188	1,864	6,052
	Diseases of Ear and Mastoid Process	515	235	750	317	241	558	9,767	6,804	16,571
400-447 450-468	CIRCULATORY DISEASES									
	Diseases of the Heart	58	26	84	12	3	15	686	538	1,224
	Other Circulatory Diseases	192	206	398	75	23	98	1,503	632	2,135

RETURN OF DISEASES—OUT-PATIENTS, 1960—(Contd.)

Code	DISEASES	EUROPEAN			ASIAN			AFRICAN		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
490-493 N.O.S. 470-527	RESPIRATORY DISEASE									
	Pneumonia	32	34	66	59	38	97	15,944	10,413	26,357
	Other Diseases of the Respiratory System (including Coryza, Pharyngitis and Bronchitis)	1,927	2,245	4,172	6,432	3,406	9,838	127,935	69,120	197,055
530-535 537 536-538 560-561, 570 571.0 571.1 N.O.S. 539-587	ALIMENTARY DISEASES									
	Dental Caries—Other Diseases of Teeth and Gums	76	94	170	151	126	277	15,201	8,530	23,731
	Glossitis	100	217	317	10	7	17	637	360	997
	Stomatitis and Other Diseases of the Buccal Cavity and Salivary Glands	113	129	247	160	128	288	10,021	8,686	18,707
	Intestinal Obstruction and Hernia	34	18	52	29	11	40	895	140	1,035
	Gastro-enteritis under Two Years	18	56	74	189	174	363	15,830	13,513	29,343
	Gastro-enteritis over Two Years	330	304	634	334	101	435	11,288	8,280	19,568
613 N.O.S. 590-617 636 N.O.S. 620-637 650-652 N.O.S. 640-689	GENITO-URINARY DISEASES									
	Other Diseases of Alimentary System	645	634	1,279	1,138	572	1,710	39,931	29,607	69,538
	Hydrocele	3	—	3	—	—	—	543	—	543
	Other Diseases of Genito-Urinary System and Male Genital Organs	175	82	257	139	5	144	4,840	180	5,020
	Sterility (Female)	—	51	51	—	6	6	—	2,314	2,314
	Other Diseases of Uterus and Female Genital Organs	—	794	794	—	201	201	—	9,502	9,502
	Normal Pregnancy	—	327	327	—	110	110	—	14,476	14,476
	Abortion	—	23	23	—	19	19	—	3,880	3,880
	Other Diseases of Childbirth	—	12	12	—	5	5	—	985	985
	SKIN AND MUSCULO-SKELETAL DISEASES									
690-698 715 N.O.S. 700-716 720-759	Boils, and Infections of Skin and Subcutaneous Tissues	643	530	1,173	562	270	832	17,986	10,814	28,800
	Chronic Ulcers	18	14	32	49	48	97	18,144	9,540	27,684
	Other Diseases of the Skin	284	213	497	432	262	694	10,251	7,722	17,973
	Diseases of Bones, Joints, Muscles and Malformation	612	463	1,075	1,070	611	1,681	25,029	11,545	36,574

RETURN OF DISEASES—OUT-PATIENTS, 1960—(Contd.)

Code	DISEASES	EUROPEAN			ASIAN		AFRICAN	
		Male	Female	Total	Male	Female	Male	Total
	ILL-DEFINED DISEASES AND INJURIES							
760-776	Neonatal Diseases..	2	2	4	—	—	109	143
788.8	Pyrexia of Unknown Origin	294	204	498	416	146	110,173	143,985
N.O.S.								
780-795	All Other Ill-defined Causes of Morbidity	838	1,004	1,842	113	51	8,038	11,832
N.800-N.839	Fractures and Dislocations	179	89	268	125	22	4,956	7,199
N.840-N.848	Sprains	156	98	254	133	41	6,091	8,223
N.930-N.936	Foreign Bodies	65	45	110	92	31	3,087	4,637
N.940-N.949	Burns and Scalds	30	39	69	81	44	6,087	10,271
N.960-N.979	Poisoning	6	6	12	—	1	592	848
N.O.S.								
N.850-N.999	Other Injuries and Wounds	479	369	848	1,241	557	53,325	73,650
Y.00-Y.18	Examination	2,023	1,128	3,151	1,933	344	42,918	46,911
	TOTAL	11,292	11,411	22,703	17,762	8,812	712,226	1,117,488

RETURN OF DISEASES—IN-PATIENTS, 1960

CODE	LIST No.	DISEASES	EUROPEAN			Total Deaths	ASIAN			Total Deaths	AFRICAN			Total Deaths
			ADMISSION				ADMISSION				ADMISSION			
			Male	Female	Total		Male	Female	Total		Male	Female	Total	
		GENERAL INFECTIOUS AND PARASITIC DISEASES												
001-008	A. 1	Respiratory Tuberculosis	6	1	7	—	110	54	164	12	2,555	1,994	4,549	470
010	2	T.B. of Meninges and Central Nervous System	—	—	—	—	—	1	1	1	169	110	279	63
011	3	T.B. of Intestines, Peritoneum and Mesen- teric Glands	—	—	—	—	2	2	4	1	154	90	244	25
012, 013	4	Tuberculosis of Bones and Joints.. ..	—	—	—	—	3	1	4	—	395	263	658	15
014-019	5	Tuberculosis—All other Forms	—	—	—	—	3	3	6	1	538	380	918	65
020	6	Congenital Syphilis	—	—	—	—	—	—	—	—	23	20	43	3
021.0, 021.1	7	Primary Syphilis	—	—	—	—	—	—	—	—	51	38	89	2
021.2-021.4	7	Secondary Syphilis	—	—	—	—	—	—	—	—	75	37	112	5
024	8	Tabes Dorsalis	—	—	—	—	—	—	—	—	—	2	2	1
025	9	General Paralysis of Insane	—	—	—	—	1	—	1	—	12	11	23	13
022, 023	10	Cardio Vascular Syphilis	—	—	—	—	—	—	—	—	8	6	14	2
026-029	10	All other Syphilis	—	—	—	—	—	—	—	—	56	23	79	1
030, 031	11	Gonorrhoea, Genito-Urinary	—	—	—	—	—	—	—	—	380	153	533	1
033	11	Gonoccal Infection of Eye	—	—	—	—	—	—	—	—	54	26	80	2
032, 034, 035	11	Other Gonoccal Infections	—	—	—	—	—	—	—	—	106	72	178	1
040	12	Typhoid Fever	3	2	5	—	7	—	7	—	645	522	1,167	99
041, 042	13	Salmonella Infections	—	—	—	—	—	1	1	—	18	14	32	1
043	14	Cholera	—	—	—	—	—	—	—	—	—	—	—	—
044	15	Brucellosis	—	—	—	—	—	—	—	—	118	67	185	1
045	16	Bacillary Dysentery.. .. .	—	—	—	—	6	2	8	—	1,143	708	1,851	63
046	16	Amoebiasis	—	—	—	—	8	1	9	—	949	492	1,441	34
047, 048	16	Other Unspecified Dysentery	—	—	—	—	8	1	9	—	761	301	1,062	45
050	17	Scarlet Fever	—	1	1	—	1	—	1	—	—	13	13	—
051	18	Streptococcal Sore Throat	—	—	—	—	—	—	—	—	107	44	151	8
052	19	Erysipelas	—	—	—	—	—	—	—	—	—	1	1	—
053	20	Septicaemia and Pyaemia	1	1	2	—	1	—	1	—	16	11	27	6
055	21	Diphtheria	3	3	6	1	5	1	6	3	26	10	36	14
056	22	Whooping Cough	—	—	—	—	2	—	2	—	1,230	1,344	2,574	223
057	23	Meningococcal Infections	—	—	—	—	1	1	2	—	151	87	238	41
058	24	Plague	—	—	—	—	—	—	—	—	22	11	33	—
060	25	Leprosy	—	—	—	—	1	—	1	—	180	108	288	5
061	26	Tetanus	1	—	1	—	2	—	2	1	451	266	717	303

RETURN OF DISEASES—IN-PATIENTS, 1960—(Contd.)

CODE	LIST NO.	DISEASES	EUROPEAN			Total Deaths	ASIAN			Total Deaths	AFRICAN			Total Deaths
			ADMISSION				ADMISSION				ADMISSION			
			Male	Female	Total		Male	Female	Total		Male	Female	Total	
		GENERAL INFECTIOUS AND PARASITIC DISEASES—(Contd.)												
062	A. 27	Anthrax	—	—	—	—	4	—	4	—	142	170	312	12
080	28	Acute Poliomyelitis	3	1	4	—	21	11	32	1	481	355	836	76
082	29	Acute Infectious Encephalitis	7	6	13	—	1	1	2	1	45	39	84	39
081, 083	30	Late Effects Poliomyelitis and Infectious Encephalitis	—	1	1	1	1	1	2	—	109	178	287	9
084	31	Variola Major	—	—	—	—	—	—	—	—	—	—	—	—
084	31	Variola Minor	—	—	—	—	—	—	—	—	57	44	101	3
085	32	Measles	12	9	21	—	3	1	4	—	1,657	1,319	2,976	80
091	33	Yellow Fever	—	—	—	—	—	—	—	—	—	—	—	—
092	34	Infectious Hepatitis	5	1	6	—	6	1	7	—	312	119	431	37
094	35	Rabies	—	—	—	—	—	—	—	—	1	2	3	2
100	36	Louse Borne Epidemic Typhus	—	—	—	—	—	—	—	—	—	—	—	—
101	36	Flea Borne Epidemic Typhus	—	—	—	—	—	—	—	—	—	—	—	—
104	36	Tick Borne Typhus	1	2	3	—	—	—	—	—	4	—	4	—
N.O.S.														
102-108	36	Other Rickettsial Diseases	—	—	—	—	—	—	—	—	1	1	2	1
110	37	B.T. Malaria	—	—	—	—	2	2	4	—	33	2	35	3
111	37	Qt. Malaria	—	—	—	—	—	—	—	—	52	39	91	10
112	37	S.T. Malaria	13	7	20	—	11	2	13	—	3,363	2,313	5,676	181
115	37	Blackwater Fever	—	—	—	—	—	—	—	—	26	9	35	3
N.O.S.														
113-117	37	Other Forms of Malaria	3	—	3	—	8	3	11	—	2,759	1,772	4,531	106
123.0	38	Schistosomiasis (Haematobium)	1	—	1	—	—	—	—	—	485	188	673	5
123.1	38	Schistosomiasis (Mansoni)	3	—	3	—	5	4	9	—	427	242	669	4
123.2	38	Schistosomiasis (Japonicum)	—	—	—	—	—	—	—	—	—	—	—	—
123.3	38	Other Unspecified Schistosomiasis	—	1	1	—	—	—	—	—	50	22	72	1
125	39	Hydatid Disease	—	1	1	—	—	1	1	—	20	48	68	8
127	40	Onchocerciasis	—	—	—	—	—	—	—	—	3	1	4	—
	40	Loiasis	—	—	—	—	—	—	—	—	2	2	4	—
127	40	Filariasis (Elephantiasis)	—	—	—	—	1	—	1	—	44	12	56	2
127	40	Other Filariasis	—	—	—	—	—	—	—	—	4	6	10	—
129	41	Ankylostomiasis	—	—	—	—	—	—	—	—	581	371	952	1
126	42	Tapeworm and other Cestode Infestation	1	1	2	—	—	—	—	—	556	227	783	1
130.0	42	Ascariasis	—	1	1	—	—	—	—	—	396	352	748	6
130.3	42	Guinea-worm	—	—	—	—	—	—	—	—	5	5	10	—

RETURN OF DISEASES—IN-PATIENTS, 1960—(Contd.)

CODE	LIST NO.	DISEASES	EUROPEAN			Total Deaths	ASIAN			Total Deaths	AFRICAN			Total Deaths
			ADMISSION				ADMISSION				ADMISSION			
			Male	Female	Total		Male	Female	Total		Male	Female	Total	
N.O.S. 124-130	A.	GENERAL INFECTIOUS AND PARASITIC DISEASES—(Contd.)												
		Other Diseases due to Helminths ..	—	—	—	—	—	—	—	—	—	—	—	—
		Chancroid ..	—	—	—	—	—	—	—	—	—	—	—	—
		Lymphogranuloma Venereum ..	—	—	—	—	—	—	—	—	—	—	—	—
		Granuloma Inguinale ..	—	—	—	—	—	—	—	—	—	—	—	—
		Other Unspecified Venereal Diseases ..	—	—	—	—	—	—	—	—	—	—	—	—
		Food Poisoning, Infective and Toxic (excepting Salmonella Infections) ..	—	—	—	1	—	1	68	44	112	5	—	—
		Relapsing Fever (Louse Borne) ..	—	—	—	—	—	—	—	—	—	—	—	—
		Relapsing Fever (Tick Borne) ..	—	—	—	—	—	—	—	—	—	—	—	—
		Weil's Diseases ..	—	—	—	—	—	—	—	—	—	—	—	—
		Yaws ..	—	—	—	—	—	—	—	—	—	—	—	—
		Rubella ..	2	—	2	—	—	—	—	—	—	—	—	—
		Chicken Pox ..	3	1	4	8	4	12	503	239	742	—	—	—
		Herpes Zoster ..	—	—	—	—	—	—	36	13	49	—	—	—
		Mumps ..	—	1	1	—	1	1	187	58	245	1	—	—
		Dengue ..	—	—	—	—	—	—	1	7	8	—	—	—
		Trachoma ..	—	—	—	—	—	—	105	124	229	—	—	—
		Sandfly Fever ..	—	—	—	—	—	—	1	—	1	—	—	—
		Leishmaniasis ..	—	—	—	—	—	—	200	76	276	21	—	—
N.O.S. 054-122 N.O.S. 132-138		Trypanosomiasis (Gambiense) ..	—	—	—	—	—	17	9	26	4	—	—	
		Trypanosomiasis (Rhodesiense) ..	—	—	—	—	—	—	4	1	5	—	—	—
		Other Unspecified Trypanosomiasis ..	—	—	—	—	—	—	14	5	19	2	—	—
		Dermatophytosis (Tinea) ..	—	—	—	—	—	—	12	15	27	—	—	—
		Scabies ..	—	—	—	—	—	—	102	74	176	—	—	—
		Other Infectious and Protozoal Diseases ..	3	1	4	—	—	—	60	34	94	—	—	—
		Other Parasitic Diseases ..	—	2	2	7	5	12	50	25	75	1	—	—
		NEW GROWTHS												
		Malignant Neoplasm of Mouth and Pharynx ..	—	—	—	5	4	9	20	22	42	9	—	—
		Malignant Neoplasm of Oesophagus ..	—	—	—	2	1	3	90	11	101	27	—	—
151	46	Malignant Neoplasm of Stomach..	2	3	5	3	—	3	44	31	75	16		

RETURN OF DISEASES—IN-PATIENTS, 1960—(Contd.)

CODE	List No.	DISEASES	EUROPEAN			Total Deaths	ASIAN			Total Deaths	AFRICAN			Total Deaths	
			ADMISSION				ADMISSION				ADMISSION				
			Male	Female	Total		Male	Female	Total		Male	Female	Total		
152, 153 154 161 162, 163 170 171	A. 47 48 49 50 51 52	NEW GROWTHS—(Contd.)													
		Malignant Neoplasm of Intestine..	..	..	..	..	..	..	..	..	..	..	..	..	..
		Malignant Neoplasm of Rectum ..	..	..	..	..	..	..	..	..	..	..	..	..	..
		Malignant Neoplasm of Larynx ..	..	..	..	..	..	..	..	..	..	..	..	..	..
		Malignant Neoplasm of Trachea, Bronchus and Lung not Specified as Secondary	..	..	..	..	..	..	..	..	..	..	..	..	..
		Malignant Neoplasm of Breast ..	..	..	..	..	..	..	..	..	..	..	..	..	..
		Malignant Neoplasm of Cervix Uteri ..	..	..	..	..	..	..	..	..	..	..	..	..	..
172, 174 177 190, 191 196, 197	53 54 55 56	Malignant Neoplasm of other Unspecified Parts of Uterus	..	..	..	..	..	..	..	..	..	..	..	..
		Malignant Neoplasm of Prostate	..	..	..	..	..	..	..	..	..	..	..	..	..
		Malignant Neoplasm of Skin	..	..	..	..	..	..	..	..	..	..	..	..	..
		Malignant Neoplasm of Bone and Connected Tissue	..	..	..	..	..	..	..	..	..	..	..	..	..
		Malignant Neoplasm of Liver and Bile Passages (Primary)	..	..	..	..	..	..	..	..	..	..	..	..	..
		Malignant Neoplasm of all other and Unspecified Sites	..	..	..	..	..	..	..	..	..	..	..	..	..
		Leukaemia and Aleukaemia	..	..	..	..	..	..	..	..	..	..	..	..	..
204 200-203, 205 210-239	57 58 59 60	Lymphosarcoma and other Neoplasm of Lymphatic Haematopoietic Systems	..	..	..	..	..	..	..	..	..	..	..	..
		Benign Neoplasms and Unspecified Neoplasms	..	..	..	..	..	..	..	..	..	..	..	..	..
		ALLERGIC, METABOLIC AND BLOOD DISEASES	..	..	..	..	..	..	..	..	..	..	..	..	..
		Non-toxic Goitre	..	..	..	..	..	..	..	..	..	..	..	..	..
250, 251 252 260 280 281 282	61 62 63 64 64 64	Thyrototoxicosis	..	..	..	..	..	..	..	..	..	..	..	..
		Diabetes Mellitus	..	..	..	..	..	..	..	..	..	..	..	..	..
		Beri-beri	..	..	..	..	..	..	..	..	..	..	..	..	..
		Pellagra	..	..	..	..	..	..	..	..	..	..	..	..	..
		Scurvy	..	..	..	..	..	..	..	..	..	..	..	..	..

RETURN OF DISEASES—IN-PATIENTS, 1960—(Contd.)

CODE	LIST NO.	DISEASES	EUROPEAN			Total Deaths	ASIAN			Total Deaths	AFRICAN			Total Deaths
			ADMISSION				ADMISSION				ADMISSION			
			Male	Female	Total		Male	Female	Total		Male	Female	Total	
		ALLERGIC, METABOLIC AND BLOOD DISEASES—(Contd.)												
	A. 64	Kwashiorkor	—	1	1	—	—	—	—	—	785	630	1,415	409
286.6	64	Other Deficiency States	—	—	—	—	19	3	22	—	335	311	646	72
283-286	65	Pernicious and other Hyperchromic Anaemias	—	—	—	—	5	2	7	1	75	126	201	30
291	65	Iron Deficiency Anaemias	1	1	2	—	3	—	3	—	282	362	644	92
292, 293	65	Other Anaemias	—	—	—	—	2	7	9	1	367	439	806	65
241	66	Asthma	3	3	6	1	20	18	38	2	462	209	671	15
N.O.S. 240-299	66	Other Allergic, Endocrine, Metabolic and Blood Diseases	1	1	2	—	18	8	26	2	171	113	284	9
		DISEASES OF NERVOUS SYSTEM AND SENSE ORGANS												
	67	Psychoses Disorders of Per-	12	34	46	—	24	10	34	—	850	551	1,401	1
300-309	68	Psychoneuroses and	—	2	2	—	1	1	2	—	290	87	377	1
310-324, 326	69	Mental Deficiency	—	1	1	—	3	—	3	—	251	170	421	3
325	70	Vascular Lesions Affecting Central Nervous System	—	3	3	1	2	1	3	—	65	32	97	27
340.0	71	Meningitis due to H. Influenza	—	—	—	—	4	1	5	—	42	39	81	13
340.1	71	Meningitis due to Pneumococcus	—	—	—	—	—	—	—	—	181	97	278	74
340.2	71	Meningitis due to Other Organisms except Tuberculous and Syphilitic	1	—	1	—	—	—	—	—	114	92	206	46
340	71	Meningitis (except Meningococcal and Tuberculous)	—	—	—	—	—	—	—	—	195	124	319	97
345	72	Multiple Sclerosis	—	—	—	—	—	—	—	—	8	2	10	—
353	73	Epilepsy	2	2	4	—	8	2	10	—	205	112	317	12
370-379	74	Inflammatory Diseases of Eye	—	2	2	—	6	1	7	—	392	245	637	3
385	75	Cataract	1	—	1	—	29	6	35	—	277	150	427	1
387	76	Glaucoma	—	—	—	—	2	—	2	—	16	18	34	—
390	77	Otitis Externa	1	—	1	—	—	—	—	—	51	24	75	4
391-393	77	Otitis Media and Mastoiditis	2	5	7	—	—	3	—	—	200	145	345	—
394	77	Other Inflammatory Diseases of Ear	—	—	—	—	10	—	10	—	83	34	117	—

RETURN OF DISEASES--IN-PATIENTS, 1960--(Contd.)

CODE	LIST NO.	DISEASES	EUROPEAN			Total Deaths	ASIAN			Total Deaths	AFRICAN			Total Deaths
			ADMISSION				ADMISSION				ADMISSION			
			Male	Female	Total		Male	Female	Total		Male	Female	Total	
	A.	DISEASES OF NERVOUS SYSTEM AND SENSE ORGANS—(Contd.)												
N.O.S. 341-369 395-398	78	All other Diseases of Nervous System, Sense Organs and Auditory System..	1	2	3	—	24	18	42	1	308	152	460	27
N.O.S. 380-389	78	All other Diseases and Conditions of Eye	—	—	—	—	—	—	—	—	357	210	567	—
		CIRCULATORY DISEASES												
400-401	79	Rheumatic Fever	—	—	—	—	10	3	13	—	241	194	435	9
402	79	Chorea	—	—	—	—	2	2	4	—	14	19	33	—
410-416	80	Chronic Rheumatic Heart Disease	—	—	—	—	3	—	3	—	105	96	201	49
420-422	81	Arteriosclerotic and Degenerative Heart Disease	1	—	1	5	9	4	13	—	49	39	88	29
430-434	82	Other Diseases of Heart	4	—	4	1	21	9	30	3	274	221	495	157
440-443	83	Hypertension with Heart Disease.. .. .	2	—	2	1	15	7	22	2	99	59	158	41
444-447	84	Hypertension without Mention of Heart	2	4	6	—	10	5	15	—	70	39	109	4
450-456	85	Diseases of Arteries	—	1	1	—	20	2	22	4	37	18	55	5
460-468	86	Other Diseases of Circulatory System	5	1	6	—	13	6	19	1	215	146	361	29
		RESPIRATORY DISEASES												
470-475	87	Acute Upper Respiratory Infections	8	2	10	—	6	—	6	—	790	596	1,386	21
480-483	88	Influenza	1	3	4	—	10	5	15	—	674	388	1,062	2
490	89	Lobar Pneumonia	2	—	2	—	9	2	11	—	2,957	1,558	4,515	296
491	90	Bronchopneumonia	4	1	5	—	8	7	15	1	4,012	3,495	7,507	1,411
492, 493	91	Primary Atypical, other and Unspecified Pneumonia	3	1	4	—	3	—	3	—	999	737	1,736	85
500	92	Acute Bronchitis	3	2	5	—	5	3	8	—	2,903	2,214	5,117	42
501, 502	93	Bronchitis, Chronic and Unqualified	4	2	6	—	9	3	12	—	1,117	839	1,956	26
510	94	Hypertrophy of Tonsils and Adenoids	19	25	44	—	128	124	252	—	733	527	1,260	7
518, 521	95	Empyema and Abscess of Lung	—	—	—	—	2	1	3	1	97	29	126	12
519	96	Pleurisy (other than Tuberculous)	2	1	3	—	1	1	2	—	77	41	118	3
523	97	Pneumoconiosis	—	—	—	—	6	2	8	—	22	15	37	2
N.O.S. 511-527	97	All other Respiratory Diseases	4	4	8	—	62	49	111	1	341	245	586	23

RETURN OF DISEASES—IN-PATIENTS, 1960—(Contd.)

CODE	LIST No.	DISEASES	EUROPEAN			Total Deaths	ASIAN			Total Deaths	AFRICAN			Total Deaths
			ADMISSION				ADMISSION				ADMISSION			
			Male	Female	Total		Male	Female	Total		Male	Female	Total	
A.		ALIMENTARY DISEASES												
	530	Dental Caries	—	—	—	—	1	2	3	—	141	69	210	—
	531-535	All other Diseases of Teeth and Supporting Structures	—	4	4	—	3	2	5	—	70	45	115	—
	540	Ulcer of Stomach	2	2	4	—	4	1	5	—	120	42	162	7
	541	Ulcer of Duodenum	4	—	4	—	16	2	18	—	154	53	207	3
	543	Gastritis and Duodenitis	—	—	—	—	5	9	14	—	326	233	559	9
	550-553	Appendicitis	17	17	34	—	115	95	210	—	233	86	319	5
	560, 561, 570	Intestinal Obstruction and Hernia	3	1	4	—	68	8	76	—	1,058	235	1,293	132
	571.0	Gastro-Enteritis and Colitis between Four Weeks and Two Years	—	—	—	—	5	5	10	1	2,810	2,214	5,024	746
	571.1	Gastro-Enteritis and Colitis, Ages Two Years and over	10	9	19	—	7	12	19	1	1,455	1,093	2,548	188
	572	Chronic Enteritis and Ulcerative Colitis	—	4	4	—	5	5	10	—	171	131	302	14
	581	Cirrhosis of Liver	—	—	—	—	3	5	8	—	289	136	425	146
	584, 585	Cholelithiasis and Cholecystitis	3	5	8	—	18	5	23	1	41	27	68	2
536-587	Other Diseases of Digestive System	12	7	19	—	41	13	54	2	1,145	858	2,003	56	
		GENITO-URINARY DISEASES												
590	108	Acute Nephritis	1	—	1	—	3	2	5	—	135	66	201	36
591-594	108	Chronic, other and Unspecified Nephritis	—	—	—	—	4	—	4	2	100	73	173	29
600	110	Infections of Kidney (other than Tuberculous)	—	—	—	—	21	14	35	1	105	101	206	9
602, 604	111	Calculi of Urinary System	3	—	3	—	4	2	6	1	33	17	50	3
610	112	Hyperplasia of Prostate	2	2	4	—	2	—	2	—	183	—	183	9
620, 621	113	Diseases of Breast (not Neoplastic)	—	5	5	—	—	27	27	—	—	279	279	—
613	114	Hydrocele	1	—	1	—	11	—	11	—	297	—	297	4
634	114	Disorders of Menstruation	—	—	—	—	—	49	49	—	—	894	894	—
N.O.S.														
601-617	114	Other Diseases of Genito-Urinary System and Male Genital Organs	6	1	7	—	87	—	87	1	811	51	862	16
N.O.S.														
622-637	114	Other Diseases of Uterus and Female Genital Organs	—	19	19	—	—	117	117	2	—	2,472	2,472	26

CODE	LIST NO.	DISEASES	EUROPEAN			Total Deaths	ASIAN			Total Deaths	AFRICAN			Total Deaths
			ADMISSION				ADMISSION				ADMISSION			
			Male	Female	Total		Male	Female	Total		Male	Female	Total	
640-641, 681/2/4 642, 652, 685, 686 643, 644 650 650 660	A.	DISEASES OF PREGNANCY PUERPERIUM												
		115	—	4	4	—	—	—	—	—	247	247	12	
		116	—	—	—	—	—	—	—	—	—	—	—	
		117	—	6	6	—	3	3	—	154	154	2		
		118	—	8	8	—	9	9	—	667	667	15		
		119	—	5	5	—	22	22	—	2,651	2,651	5		
		120	—	69	69	—	10	10	—	554	554	7		
N.O.S. 645-689	120	Other Complications of Pregnancy, Child-birth and Puerperium												
		—	12	12	—	16	16	—	2,698	2,698	98			
690-698 720-725 726-727 730 737, 745-749 715 700-714, 716 731/736,, 738-744 751 754 N.O.S. 750-759		SKIN AND MUSCULO-SKELETAL DISEASES												
		121	9	8	17	—	27	12	39	—	1,285	705	1,990	10
		122	1	2	3	—	7	3	10	—	563	293	856	3
		123	—	1	1	—	2	1	3	—	568	416	984	1
		124	—	—	—	—	5	—	5	—	366	200	566	8
		125	—	—	—	—	2	2	4	1	88	47	135	—
		126	3	—	3	—	8	2	10	—	1,549	801	2,350	5
		126	3	3	6	—	8	3	11	—	548	309	857	5
		126	17	1	18	—	16	11	27	—	319	230	549	2
		127	—	—	—	—	1	—	1	—	21	14	35	6
		128	—	—	—	—	—	1	1	—	25	29	54	5
		N.O.S. 750-759	129	Other Congenital Malformations										
—	—			—	—	16	15	31	—	120	77	197	6	

RETURN OF DISEASES—IN-PATIENTS, 1960—(Contd.)

CODE	LIST No.	DISEASES	EUROPEAN			Total Deaths	ASIAN			Total Deaths	AFRICAN			Total Deaths
			ADMISSION				ADMISSION				ADMISSION			
			Male	Female	Total		Male	Female	Total		Male	Female	Total	
A.		DISEASES OF NEW BORN												
760-761	130	Birth Injuries	—	—	—	—	—	1	—	—	14	16	30	6
762	131	Post-natal Asphyxia and Atelectasis	—	3	3	—	—	—	—	—	18	16	34	20
764	132	Diarrhoea of Newborn (under Four weeks)	—	—	—	—	—	—	—	—	34	32	66	4
765	132	Ophthalmia Neonatorum	—	—	—	—	—	—	—	—	11	9	20	2
763, 766-768	132	Other Infections of Newborn	—	—	—	—	1	1	2	1	9	7	16	3
770	133	Haemolytic Disease of Newborn	—	—	—	—	—	—	—	—	13	14	27	5
769, 771, 772	134	All other defined Diseases of Early Infancy	—	1	1	—	3	2	5	—	77	84	161	37
773, 776	135	Ill-defined Diseases Peculiar to Early Infancy, and Immaturity, Unqualified	—	1	1	—	—	1	1	—	62	106	168	41
		ILL-DEFINED DISEASES												
794	136	Senility without Mention of Psychosis	—	—	—	—	1	1	—	—	81	80	161	18
788.8	137	Pyrexia of Unknown Origin	59	41	100	—	48	76	124	—	3,907	2,724	6,631	129
793	137	Observation, without need for further medical care	14	26	40	—	7	7	14	—	729	617	1,346	6
N.O.S. 780-795	137	All other Ill-defined Causes of Morbidity	1	1	2	—	2	4	6	1	583	403	986	9
	AN.	INJURIES												
N.800-N.804	138	Fracture of Skull	—	—	—	—	22	4	26	4	343	53	396	70
N.805-N.809	139	Fracture of Spine and Trunk	—	—	—	—	17	5	22	3	252	53	305	12
N.810-N.829	140	Fracture of Limbs	4	2	6	—	79	29	108	3	2,631	1,086	3,717	25
N.830-N.839	141	Dislocation without Fracture	3	1	4	—	9	2	11	—	495	153	648	1
N.840-N.848	142	Sprains and Strains of Joints and Adjacent Muscle	2	2	4	—	11	1	12	—	670	264	934	—
N.850-N.856	143	Head Injury (excluding Fracture)	4	1	5	—	27	3	30	—	527	135	662	35
N.860-N.869	144	Internal Injury of Chest, Abdomen and Pelvis	5	3	8	—	13	7	20	1	232	87	319	21
N.870-N.908	145	Laceration and Open Wounds	19	12	31	—	86	22	108	1	4,357	1,474	5,831	57
N.910-N.929	146	Superficial Injury, Contusion and Crushing with Intact Skin Surface	1	2	3	—	26	9	35	—	1,790	595	2,385	10
N.930-N.936	147	Effects of Foreign Body Entering through Orifice	—	—	—	—	4	2	6	—	251	128	379	9

RETURN OF DISEASES—IN-PATIENTS, 1960—(Contd.)

CODE	LIST No.	DISEASES	EUROPEAN			Total Deaths	ASIAN			Total Deaths	AFRICAN			Total Deaths
			ADMISSION				ADMISSION				ADMISSION			
			Male	Female	Total		Male	Female	Total		Male	Female	Total	
N.940-N.949 N.960-N.979 N.950-N.959 N.980-N.999	AN. 148 149 } 150	INJURIES—(Contd.) Burns Effects of Poisons All other and Unspecified Effects of Ex- ternal Causes TOTAL	—	—	—	—	13	20	33	6	966	713	1,679	122
			3	2	5	—	6	3	9	2	332	194	526	20
			—	—	—	—	7	3	10	—	708	328	1,036	28
			380	452	832	10	1,828	1,222	3,050	86	81,038	71,954	152,992	7,996
		

